



CENTRAL PIEDMONT  
COMMUNITY COLLEGE

**CATALOG 1984-1986**

FACULTY,  
ADMINISTRATION

COURSE  
DESCRIPTIONS

SKILLS  
IMPROVEMENT

CONTINUING  
EDUCATION

TRANSFER  
PROGRAMS

CAREER  
PROGRAMS

GENERAL  
INFORMATION





# Central Piedmont Community College

## 1984-86

<b>Address</b>	Mailing: P.O. Box 35009, Charlotte, NC 28235 Delivery: 1201 Elizabeth Avenue at Old Kings Drive
<b>Information/ Admissions Center Hours</b>	Monday-Thursday: 8:00 a.m. - 10:30 p.m. Friday: 8:00 a.m. - 5:00 p.m. Saturday: 8:00 a.m. - 12:00 noon
<b>Telephone</b>	College Switchboard: 704/373-6633 Information/Admissions Center: 704/373-6687 For other listings see Charlotte Telephone Directory
<b>Class Schedules and Catalogs</b>	Not all courses listed are offered every quarter. Schedules are printed and delivered in Mecklenburg County by the CHARLOTTE OBSERVER the last Sunday in February, May, August and November as supplements to the Sunday editions.  Catalogs and Class Schedules may be obtained at the Information/Admissions Center, Terrell Building, 2nd floor, and at any of the Area Learning Centers, or by calling 704/373-6777 (telephone tape) to request copies by mail.
<b>Changes</b>	CPCC reserves the right to change its academic regulations, policies, fees and programs without notice.
<b>Open Door Policy</b>	CPCC is committed to the concept that, given enough time, most students can accomplish any learning task. The College strives to help students realize their potential as worthwhile and productive members of society.
<b>Equal Opportunity</b>	CPCC is committed to providing equal opportunity to all students, employees and applicants regardless of race, color, age, sex, religion, national origin, or handicaps.

# How To Read CPCC's Catalog

This Catalog should not be read straight through as you would a novel. Instead, skim through it and become familiar with the different kinds of information it contains. Properly used, it becomes a tool for answering many of your questions and for expanding your awareness about CPCC. How can CPCC be of help to you? What should you study? What are program requirements? What will you learn in the classes offered?

Don't let the unfamiliar language scare you:

**Program** — An area of study or career direction which includes many related courses.

**Advancement Studies** — Basic courses (identified with a 9000 number) which prepare you for more advanced study.

**College Transfer** — CPCC freshman and sophomore courses (identified with 1000-2000 numbers) which students may transfer to four-year colleges or universities.

**Continuing Education** — Usually non-credit courses for upgrading skills or for personal enrichment (identified with 7000-8000 numbers). At CPCC, they also include Adult Basic Education (ABE); High School Completion (HSC); and General Education Development (GED) courses. These are identified with 6000 numbers.

**Course Description** — This tells you what is taught in the course, what the objectives are, and what you should be able to do upon completion. The description also shows how often the class meets and how much time you should plan for it.

**Prerequisite** — A course you should take for background before enrolling in a particular course. For example, Chemistry II has a prerequisite of Chemistry I.

**Corequisite** — A course to take along with another course.

**Transcript** — A record of the courses you have taken.

Some course abbreviations are not obvious. These include:

Air Conditioning, Heating and Refrigeration . . . . . AHR	Food Service . . . . . FSO	Mechanical Engineering Technology . . . . . MEC
Auto Body Repair . . . . . AUB	Geology . . . . . GEL	Paralegal . . . . . LEX
Banking and Finance . . . . . BAF	Graphic Arts . . . . . PRN	Piano Tuning and Repair . . . PTR
Computer Science . . . . . EDP	Health Education . . . . . HED	Police Science . . . . . PSC
Consumer Education . . . . . CED	Health, Physical Educa- tion and Recreation . . . . . HPE	Small Engine and Powerboat Mechanics . . . PME
Correctional Science . . . . . CSC	Human Services . . . . . HSA	Speech . . . . . SPH
Dental Assisting . . . . . DEA	Industrial Safety, Health, Security & Investigation . . SSH	Visual Communications . . . . VCO
Electrical/Electronics Engi- neering Technology . . . . . ELN	Interior Design . . . . . EDN	Welding . . . . . WLD
Fire Science . . . . . FIP	Manufacturing Engineering Technology . . . . . ISC	

Other Catalog sections tell you how to enroll and what services are available.

Feel free to ask questions about . . . anything! Staff in the Information/Admissions Center, 373-6687, Terrell Building 2nd Floor, are here to help you. If they do not have the answers, they will help you find them.



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## Board of Trustees

George Morgan, Chairman  
J. Emmett Sebrell, Vice Chairman  
Richard H. Hagemeyer, Secretary

Appointed by the Governor	Term Expires
William M. Claytor .....	1985
Willie A. Smith .....	1987
Maggie W. Ray .....	1989
Natalie Cohen .....	1991

Appointed by the Mecklenburg County Board of Commissioners	
Gerson L. Stroud .....	1985
J. Emmett Sebrell .....	1987
John H. Maxheim .....	1989
Donald W. Holland .....	1991

Appointed by the Charlotte-Mecklenburg Board of Education	
Albert F. Sloan .....	1985
Sandra L. Townsend .....	1987
George R. Morgan .....	1989
Spurgeon W. Webber .....	1991

Student Association President ..... Non-Voting Member

## Administration

Richard H. Hagemeyer  
President

N. Gayle Simmons  
Executive Vice President

E. Worth Campbell, Jr.  
Assistant to the President

Betty J. Funderburke  
Director of Personnel

Melvin L. Gay  
Vice President, Student Development

Robert G. Hoelzel  
Comptroller

David L. Hunter  
Group Vice President, General Studies

Otto A. Lockee  
Vice President, Corporate Services

William A. McIntosh  
Vice President, Educational Planning and Evaluation

Jack Mullis  
Manager, Plant Operations and Purchasing

Michael G. Myers  
Vice President, Resource Development & Community Relations

Bruce H. Smith  
Vice President, Administrative Services

Carl E. Squires  
Group Vice President, Career Programs

Renee P. Westcott  
Vice President, Learning Resources

## Letter From the President

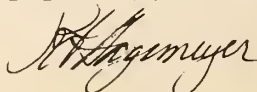
The 1984-86 college years promise to be exciting ones for students at Central Piedmont Community College. New programs and services will be added as we keep up with the expanding demands of students of all ages during this exciting decade. Our emphases include significant innovations planned with your convenience and learning in mind. In the past, such innovations have kept us in the forefront of colleges that are shaping the future of education.

But no matter how much effort we put into these programs, the strength of Central Piedmont Community College remains the same: excellence in teaching and personal attention by faculty and staff. We are known as a teaching institution—not one of publishing or research—and we take pride in the job we do.

I am sorry I will not get to meet each one of you. However, the Open Door concept of CPCC also goes for my office. It is located on the third floor of the Terrell Building.

You will find that this college is able to give you as much as you are willing to receive. We think learning can and should be challenging and enjoyable, and we attempt to make it so.

I wish you well.



Richard H. Hagemeyer





# Calendar — 1984-1986

## \*SUMMER QUARTER 1984

Current Spring Students Register .....	Monday-Thursday, June 4-7
Regular Registration .....	Monday-Thursday, June 11-14
Final Registration .....	Monday and Tuesday, July 9 and 10
Classes Begin .....	Thursday, July 12
Labor Day Holiday .....	Monday, September 3
Classes End .....	Thursday, September 13

## FALL QUARTER 1984

Current Summer Students Register .....	Thursday, August 30, and Tuesday-Thursday, September 4-6
Regular Registration .....	Monday-Thursday, September 10-13
Final Registration .....	Wednesday and Thursday, September 26 and 27
Classes Begin .....	Monday, October 1
Thanksgiving Break .....	Thursday-Sunday, November 22-25
Classes End .....	Tuesday, December 18

## WINTER QUARTER 1985

Current Fall Students Register .....	Monday-Thursday, December 3-6
Regular Registration .....	Monday-Thursday, December 10-13
Final Registration .....	Wednesday and Thursday, January 2 and 3
Classes Begin .....	Monday, January 7
Classes End .....	Saturday, March 23

## SPRING QUARTER 1985

Current Winter Students Register .....	Monday-Thursday, March 4-7
Regular Registration .....	Monday-Thursday, March 11-14
Final Registration .....	Tuesday and Wednesday, March 26 and 27
Classes Begin .....	Monday April 1
Easter Break .....	Friday-Monday, April 5-8
Classes End .....	Tuesday, June 18

## \*SUMMER QUARTER 1985

Current Spring Students Register .....	Monday-Thursday, June 3-6
Regular Registration .....	Monday-Thursday, June 10-13
Final Registration .....	Monday and Tuesday, July 8 and 9
Classes Begin .....	Thursday, July 11
Labor Day Holiday .....	Monday, September 2
Classes End .....	Wednesday, September 11

## FALL QUARTER 1985

Current Summer Students Register .....	Thursday, August 29, and Tuesday-Thursday, September 3-5
Regular Registration .....	Monday-Thursday, September 9-12
Final Registration .....	Wednesday and Thursday, September 25 and 26
Classes Begin .....	Tuesday, October 1
Thanksgiving Break .....	Thursday-Sunday, November 28-December 1
Classes End .....	Wednesday, December 18

## WINTER QUARTER 1986

Current Fall Students Register .....	Monday-Thursday, December 2-5
Regular Registration .....	Monday-Thursday, December 9-12
Final Registration .....	Thursday and Monday, January 2 and 6
Classes Begin .....	Wednesday, January 8
Classes End .....	Tuesday, March 25
Easter Break .....	Friday-Monday, March 28-31

## SPRING QUARTER 1986

Current Winter Students Register .....	Monday-Thursday, March 3-6
Regular Registration .....	Monday-Thursday, March 10-13
Final Registration .....	Wednesday and Thursday, March 26 and 27
Classes Begin .....	Wednesday April 2
Classes End .....	Tuesday, June 17

## \*SUMMER QUARTER 1986

Current Spring Students Register .....	Monday-Thursday, June 2-5
Regular Registration .....	Monday-Thursday, June 9-12
Final Registration .....	Monday and Tuesday, July 7 and 8
Classes Begin .....	Thursday, July 10
Labor Day Holiday .....	Monday, September 1
Classes End .....	Thursday, September 11

NOTE: Fall, Winter and Spring quarters are 11 weeks. The Summer quarter is 9 weeks. There is also a short 6-week Summer quarter that begins the first day of the quarter.

\*The Summer quarter is a full quarter with no substantial reduction in course offerings. It is not regarded as optional.



BELK BUILDING



# The College

## PHILOSOPHY AND OBJECTIVES

The doors of Central Piedmont Community College are open and accessible to all adults seeking to further their education. The College recognizes its responsibility to the community by providing general services to the surrounding area; by helping individual students recognize their potential as worthwhile and productive members of society; by providing opportunities for students to develop their physical, intellectual, and aesthetic capacities according to their individual desires to pursue an education; and by assisting students to attain goals consistent with their needs, interests and abilities.

The College seeks to implement its philosophy by:

- (1) Providing the first two years of study in the liberal arts and pre-professional fields for those students who wish to transfer to four-year colleges.
- (2) Providing occupationally-oriented programs for those students who wish to enter employment in the technologies.
- (3) Providing occupationally-oriented programs for those students who wish to be employed in business and commerce.
- (4) Providing occupationally-oriented programs for those students who wish to enter employment in health-related fields.
- (5) Providing occupationally-oriented programs for those students who wish to enter employment in public-service areas.
- (6) Providing occupationally-oriented programs for those students who wish to enter employment in the skilled trades.
- (7) Providing a program of general education for the social, cultural and personal development of those individuals wishing to continue their education beyond high school.
- (8) Providing single or combination courses needed by adults in the community to update their occupational capabilities to meet the challenges of a changing technological society.
- (9) Providing courses for the individuals whose education stopped short of high school graduation and for those who wish instruction in home and family education and leisure-time activities.
- (10) Providing counseling and guidance services to all students.
- (11) Providing community educational services for organizations and individuals—including speakers, concerts, resource personnel or materials, special institutes or programs and reading lists as requested.

The College is aware that the implementation of these objectives in an open-door admission environment will bring to its campus students who differ greatly in age, motivation and purpose, as well as educational and personal background. The challenge of educating these students cannot be met with traditional methods of instruction alone. In

recognition of this fact the following policy statement has been adopted by the Trustees of the College:

"Central Piedmont Community College is committed to the concept that, given enough time, most students can accomplish any learning task. This is based on the concept that students basically differ in their rates of learning rather than their ability to learn.

"This commitment carries with it a resolve that the College must have as a major objective the provision of ample opportunities for students to learn at varying rates. It also implies a belief in the concept of individualized control of the rates of learning."

The Trustees and staff of the College are dedicated to the task of creating the environment for learning which is defined in the above statements of philosophy, objectives and policy.

## HISTORY

CPCC was formed in 1963 by a merger of Mecklenburg College, a liberal arts institution, and the Central Industrial Education Center. The N.C. General Assembly designated CPCC as one of the original 12 community colleges in the State's new, comprehensive system.

CPCC's founding and only president, Richard H. Hagemeyer, took charge of CPCC—first called Charlotte Community College—in 1963. He had worked for the automotive industry, as an administrator at Henry Ford Community College in Michigan, and, since 1961, for the Charlotte-Mecklenburg Schools.

Initially, the College offered a dozen vocational programs and some extension courses to just under 2,000 students. The students were split between the campuses of Mecklenburg College off I-85 near N.C. Highway 16 and the Central Industrial Education Center housed in the former Central High School at Kings Drive and Elizabeth Avenue. The high school had closed when Garinger High School was built.

In 1964, CPCC's Trustees decided to concentrate expansion of the College at the downtown site. The facilities of Mecklenburg College were sold and the Board began purchasing tracts of land surrounding the Elizabeth Avenue location.

Ground was broken for CPCC's two major classroom buildings—now Kratt and Van Every Halls—after a local bond referendum generated \$3 million for College facilities in 1966. It was the first step toward completion of 23 buildings the College now occupies on 33 acres bounded by Fourth and Seventh Streets, Independence Boulevard, and Kings Drive.

Voters again showed their support for CPCC through bond issues: in 1970—providing \$4.6 million for land purchases and construction of the Belk Building; in 1978—approving \$1.6 million for the College's 600-car parking deck; and in 1983—approving \$2 million for equipment.

Because of the number and quality of educational programs offered, the College was invited in 1969 to join the League for Innovation in the Community College, an organization of 18 leading community colleges in the United

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States. Since then, CPCC has developed and shared new techniques in education with these other pioneering institutions.

CPCC has grown to serve some 22,000 students each quarter or about 45,000 different people each year. Since 1964, the College has offered the first two years of the liberal arts curriculum for students transferring to four-year colleges for upper division study. By 1974, CPCC had grown to optimum size on the downtown site. College Trustees decided against asking for more tax dollars to build additional campuses; instead, they sought to expand CPCC's offerings efficiently and economically by using existing facilities and alternative delivery systems.

By 1980, the College was operating off-campus—offering general studies, vocational and continuing education courses in over 200 locations. Schools, churches, community centers, and businesses became settings for CPCC classes.

To maintain quality in these off-campus courses, and to provide support services for teachers and students, the College now operates three learning centers: in Cornelius, Matthews and Charlotte's Freedom Mall. In these area learning centers, students register for CPCC courses, obtain student I.D.'s, complete lab work and self-paced courses, and use audiovisual learning materials. Travel to the main campus is reduced and education is made more accessible.

In addition, the College now offers education by television, newspapers, telephone and radio.

### LOCATION

The campus, situated at Elizabeth Avenue and Kings Drive in uptown Charlotte, is ideally located near the center of the population which it serves and is convenient to public transportation and expressway systems serving the greater Charlotte area. Area learning centers are located in Cornelius, Freedom Mall and Matthews.

### ACCREDITATION

Central Piedmont Community College is accredited by:  
Southern Association of Colleges and Schools, Commission on Colleges

North Carolina State Board of Community Colleges

American Dental Association: dental assisting and dental hygiene programs

American Physical Therapy Association: physical therapist assistant program

American Medical Association: respiratory therapist program

North Carolina State Board of Nursing: associate degree nursing and licensed practical nursing

Accreditation Board for Engineering and Technology: architectural engineering technology, civil engineering technology, electrical engineering technology, electronics engineering technology, manufacturing engineering technology, mechanical engineering technology

Joint Review Committee for Respiratory Therapy Education: respiratory therapy.

### MEMBERSHIPS

Central Piedmont Community College is a member of:

American Association of Community and Junior Colleges

North Carolina Association of Junior Colleges

American Council on Education

League for Innovation in the Community College

North Carolina Association of Colleges and Universities

Southern Association of Colleges and Schools.





# Facilities

The College is supported by state, federal and local funds and thus is able to provide superior instruction and optimum use of excellent equipment and laboratories at a minimum cost to students. The campus includes parking areas and a learning resources center, classrooms and well-equipped, modern laboratories and specialized shop areas.

## AREA LEARNING CENTERS

CPCC's Area Learning Centers are designed to meet the needs of those who want to attend CPCC in their neighborhoods. There are three Area Learning Centers for the convenience of students:

### WEST AREA LEARNING CENTER

Freedom Mall Shopping Center, Charlotte

### MATTHEWS AREA LEARNING CENTER

Matthews Depot Shopping Center, Matthews

### NORTH AREA LEARNING CENTER

Highway 21 North, Cornelius

The Area Learning Centers make use of self-paced individualized instruction taught through various media such as video tape, computer, cassette tape, slide/sound, and learning packages. In addition, the Learning Centers provide TV courses, *DOLLY (Dial Our Listening Library Yourself)*. Registration services are available for all Area Learning Center and CPCC courses during scheduled registration periods.

The goal of the Area Learning Centers is to provide services that will help students realize their full potential as individuals as well as their educational goals and needs. Learning Center staff members are dedicated to educating and supporting students.

The Area Learning Centers offer some program courses which may be completed at the Centers. Labs or lectures for specific courses taught on-campus, videotapes of the telecourses aired on WTVI (Channel 42) and cablevision (Channels 3 and 30), and free mini-courses and course segments are available. Basic skills programs in mathematics, language and reading are available through self-study courses. The Area Learning Centers also serve as administrative support centers for off-campus classes.

## BOOKSTORE

It is the student's responsibility to obtain the required textbooks and supplies prior to the first meeting of a class. The College maintains a Bookstore from which students may purchase the necessary books and supplies. The Bookstore will buy used books from students the last week of each quarter.

## CAFETERIA (Central Forum)

The Central Forum, operated by Yeager Enterprises, Inc., has a grill service available for short orders and a hot meal service available from 7:00 a.m. until 6:30 p.m., Monday through Thursday, and until 4:00 p.m. on Fridays. Break-

fast is served from 7:00 a.m. until 10:30 a.m.

## CLASSROOMS, STUDIOS, LABORATORIES AND SHOPS

In addition to main campus classes, CPCC classes meet in neighborhood churches, schools and office buildings. On the main campus there are many laboratories, shops, studios and specialized areas so students can practice and apply what they learn in the classrooms.

## LEARNING RESOURCES CENTER

The Richard Hagemeyer Learning Resources Center supports the total instructional program of the College. There are tapes, slides, films, programmed materials, books and periodicals in the Center. New audio and visual materials and equipment are added, when appropriate, to provide a wide range of information to students and faculty. Facilities and staff are available for local production of media.

### Auditorium/Conference Room

*Pease Auditorium* has 440 seats equipped for note-taking and is also used for plays, concerts and movies. It can be sectioned into thirds to accommodate groups with special needs.

*Pease Conference Room*, located across the hallway from the Auditorium, is available for small group meetings.

### Library

The *Library*, housed on the third and fourth floors, has a collection of print and non-print materials particularly adapted to the objectives and programs of the College. Resources of the Library include reference books, bound and unbound periodicals, pamphlets, microforms and audiovisual materials, in addition to the general book collection and a collection of mini-courses for independent study. Micro-form readers and copying machines are included in services provided. An Audio-Visual Center on the third floor contains materials of all types, equipment for viewing or listening, and browsing opportunities for those interested. An open-shelf arrangement is used to stimulate interest and to provide easy access to the collection of print and non-print materials. There are frequent displays on subjects of special interest. Resources of other libraries in the Charlotte area and statewide are available to faculty and students through inter-library loans. The Library is staffed by trained librarians who are aided by paraprofessional staff, clerical personnel and student assistants. Students are urged to become familiar with the regulations which have been established for the benefit of all who use the Library. These procedures appear in the Student Library Bulletin and are available at the reference desk, third floor, Learning Resources Center.

The *Telecourse Center* is located on the ground floor of the Learning Resources Center. It is a service center with two major functions: it serves as the lab for courses offered over local television and it also houses a variety of outstanding video programs to inform, educate and inspire both faculty and students.

## PARKING

The campus includes paved and well-lighted parking areas. Students may use these parking lots except those reserved for faculty. Access to student lots is controlled by "free-in pay-out" gates which operate automatically. This type of procedure requires students to use tokens in the appropriate receptacle on leaving a parking lot. The gate will then raise to enable the individual to leave. Tokens may be purchased at the Bookstore, the Business Office, or from a machine in the parking deck or on the second floor of the Terrell Building.

As an additional protection to students, their cars must be registered each year at Fall quarter registration or whenever the student first registers. Each student is given a Central Piedmont Community College sticker, at no charge, that is to be placed on the rear bumper.

Brochures explaining parking regulations at CPCC are available at the Registration Center, the Information/Admissions Center, and at the Area Learning Centers.

*NOTE: See Support Services for information about DOLLY, Drop-in Center, First Aid Team, Housing, Lost and Found, Mini-Courses, PAT, Reading Clinic, Small Business Center, Student Employment and Career Planning Center, Testing Center, Women's Career Center and Support Services for the Exceptional Student.*





# Academic Information

## THE ASSOCIATE IN ARTS DEGREE (A.A.)

The purpose of this program is to provide courses in liberal arts and pre-professional areas which will enable students to enter as juniors at four-year institutions of their choice. While the liberal arts program suggested elsewhere in this Catalog will satisfy the requirements of most senior institutions, it is the responsibility of all College Transfer students to identify as early as possible the institutions to which they will apply for transfer to determine the specific requirements of those institutions for the freshman and sophomore years. Each student's sequence of courses should be planned by the student and program counselor or faculty adviser with a specific four-year institution in mind.

## THE ASSOCIATE IN FINE ARTS DEGREE (A.F.A.)

This program offers courses in dance, drama, fine arts and music so that students can declare a major in one of these areas. It will prepare students as juniors at four-year institutions. Each student's sequence of courses should be planned by the student and a program counselor or faculty adviser, with a specific four-year institution in mind.

## THE ASSOCIATE IN APPLIED SCIENCE DEGREE (A.A.S.)

This program offers business, health-related and public service courses as well as courses in engineering and other technologies. These courses are designed to enable the graduate to enter an occupation with a marketable skill, a high level of competency, and the ability to communicate effectively. Highly specialized courses combined with general education courses enable students to be effective members of society. The following programs are available: Accounting; Air Conditioning, Heating and Refrigeration Technology; Architectural Technology; Automotive Technology; Book-keeping/Clerical; Business Administration (Banking and Finance, Business Management, Postal Service Management, Real Estate); Civil Engineering Technology; Commercial Art—Advertising Design; Commercial Art—Interior Design; Computer Engineering Technology; Computer Programming, Business; Correctional Science; Dental Hygiene; Electrical Engineering Technology; Electronics Engineering Technology; Fire Protection Technology; Food Preparation; Graphic Arts (Printing) Management; Horticulture Technology; Hotel/Restaurant Management; Human Services Associate (Casework and Outreach, Child Development, Interpreter Training); Industrial Safety, Health, Security and Investigations (Safety, Security, Investigations); Insurance; Manufacturing Engineering Technology; Marketing and Retailing (Fashion Merchandising,

Sales, Supermarket); Mechanical Engineering Technology; Medical Office Assisting Technology; Medical Record Technology; Nursing, Associate; Paralegal; Physical Therapist Assistant; Police Science; Recreation Associate; Respiratory Therapy; Secretarial Science (Executive, Legal, Medical, General Office); Transportation (Operations, Sales, Traffic).

## THE ASSOCIATE IN GENERAL EDUCATION DEGREE (A.G.E.)

The Degree of Associate in General Education is designed for persons who want to develop a program of study which is not offered by the College to meet their special needs. Candidates for this degree may present credit courses taken in the Associate in Arts Programs, the Associate in Fine Arts, the Associate in Applied Science Program, the diploma programs, credit courses in the Advancement Studies Department, C.L.E.P., or any combination of these. A.G.E. students may enroll in any program for any course in which they can meet prerequisites. To graduate with the A.G.E. Degree, candidates must meet the following requirements: completion of at least four courses from three of the following disciplines (one of which must be English)—English, Social Science, Science or Mathematics, Humanities, Performing Arts or Fine Arts; a maximum of 24 quarter hours in 9000 courses may be used; completion of 96 hours of college credit courses; completion of 32 additional hours of college credit courses if the student has previously earned another degree; official copies of high school and other college transcripts on file in the student's record folder at CPCC; a minimum of 32 quarter hours must be earned in residence at Central Piedmont Community College, 12 of which must be the final credit hours prior to graduation.

## THE DIPLOMA

These programs offer courses designed to meet the ever-increasing need of our complex society for skilled craftworkers. Graduates earning a diploma should enter employment with a high degree of manipulative skill. Graduates also gain knowledge of basic mathematics, science and communications. The following programs are available: Air Conditioning, Heating and Refrigeration; Automotive Body Repair; Automotive Mechanics; Computer Operations; Dental Assisting; Diesel Mechanics; Graphic Arts (Printing); Horticulture; Insurance; Machinist; Mechanical Drafting; Medical Office Assisting; Nursing, Practical; Piano Tuning and Repair; Welding.

## THE CERTIFICATE

The purpose of these programs is to provide special study in health-related and career-oriented fields. The following Certificate programs are available: Early Childhood Aide, Data Entry Operations, Food Preparation, Health Record Clerk, Insurance, Medical Transcription, and Nurse Aide.

\* \* \*

## **ADULT BASIC EDUCATION (ABE)**

Adult Basic Education is for those whose schooling stopped short of the ninth grade. It helps students gain the skills needed in order to enter High School Completion courses. There is no charge for these classes. For information, call 373-6864.

## **HIGH SCHOOL COMPLETION (HSC)**

High School Completion leads to an earned diploma granted by the Charlotte/Mecklenburg Board of Education. For graduation, the Board requires four units of English, two units of math, two units of general science and biology, and two units of American and world history. Students who have not met each of those requirements enroll for at least one quarter of study in appropriate areas. After one quarter, a standardized test is given. A satisfactory test score earns credit toward graduation for that entire subject. There is no charge for these classes. For HSC/GED information, call 373-6975.

## **GENERAL EDUCATION DEVELOPMENT (GED)**

General Education Development is another route for those who have not completed high school. A diploma is awarded by the N.C. State Board of Education after a student passes five individual tests in English, math, science, social studies and reading. A pre-test will show students their weak area(s). CPCC offers GED classes on campus and in adult education centers. These classes are self-paced in an open lab setting and students progress at their own learning rate and at hours they choose. For GED/HSC information, call 373-6975.

## **ADULT BASIC LITERACY EDUCATION (ABLE)**

The ABLE Center is a literacy center located in Freedom Mall which offers an innovative approach for adults who cannot read, write or calculate at an adult level. The Center combines the use of microcomputers, video systems, audio tapes and specialized programming to teach adults reading and math skills.

Instructors and tutors are available to work one-on-one or in small groups and to guide students through program materials and help with use of the equipment. The ABLE project seeks to combat adult illiteracy by amassing an array of educational media and teaching techniques in one location. The ABLE Center speeds the educational process of adult illiterates and enhances their chances for success.

Instruction at the ABLE Center is FREE and adults (18 years or over) may register for the program at the ABLE Center in the Freedom Mall Shopping Center, from 10 a.m. to 9 p.m. Monday to Friday and 10 a.m. to 6 p.m. on Saturday. For more information, call 373-6971.

## **CONSORTIUM—CHARLOTTE AREA**

CPCC is a member of the Charlotte Area Educational Consortium, along with 11 other area colleges and universities, and participates in a wide variety of Consortium activities including a cross-registration program that enables students to take certain courses not offered at CPCC. Information is available by calling 373-6908.

## **HIGH SCHOOL/CPCC CONCURRENT ENROLLMENT PROGRAM**

The concurrent enrollment program enables qualified students to take courses at CPCC for remedial purposes, high school credit, personal enrichment or college credit. Concurrent enrollment forms may be obtained from the high school principal or person so designated by the principal. All students participating in this program must have the endorsement of their high school principal, who affirms that the student is in good standing, is at least 16 years of age, and has approval to register for the courses listed on the form. The form, signed by the principal, is presented at the time the student registers for classes either on-campus or at one of the Area Learning Centers.

Arrangements for using CPCC courses for high school credit must be made between the student and the high school principal. Concurrently enrolled students who take 1000- and 2000-level courses for college credit can request that their CPCC transcript be forwarded to the college or university of their choice upon completion of those courses.

Concurrently enrolled students are regarded by CPCC as any other college student and do not receive separate or special identification or assistance. By enrolling in this program, each student establishes a CPCC transcript. Grade reports are mailed to students following the close of each quarter. Requests for transcripts should be directed to the Office of Student Records (Terrell Building, Room 200), 373-6959.

For more information about the Concurrent Enrollment Program, call 373-6784.

## **INSTRUCTIONAL OPTIONS UNLIMITED (IOU)**

Instructional Options Unlimited offers educational opportunities through non-traditional modes of education, i.e., TV, radio, computers and newspapers. Through these media IOU seeks to provide quality courses for persons from varied socio-economic backgrounds. It encompasses a variety of teaching devices, strategies, methods and course objectives which can reach a greater number of students. IOU embodies the belief that technological equipment and systems are available to make learning more accessible to mid-career adults, homemakers, homebound and/or physically impaired persons who do not find the main campus or Area Learning Centers readily accessible.



Television and radio courses carry college credit for students who register, meet a required number of times with the instructor, and pass required exams given in the Testing Center on campus or in off-campus Learning Centers. The only difference from traditional courses is that students view and hear lectures at home. Cost for courses through the IOU Program is the same as for traditional courses.

Because television, radio and newspapers reach such large audiences and because there are fewer limits on numbers of students based on classroom size, IOU courses have the potential to be the most flexible of instruction available. For more information, call 373-6943.

## NON-CREDIT COURSES

These courses strive to meet the needs of adults by providing cultural, enrichment and general interest courses. Also, the College offers occupational extension courses to those who want vocational training, retraining or upgrading. No college credit is granted for these courses; however, Continuing Education Units (CEU) are awarded upon completion of many of them. Businesses, associations, clubs and individuals often help in designing new courses to meet ever-changing needs in the Metrolina area.

## OLDER ADULT PROGRAM

The primary goal of the Older Adult Program is to provide direct educational services to older adults in Mecklenburg County. Older adults must be over age sixty-five in order to attend classes without paying tuition. Those under

sixty-five may request assistance from the Older Adult Program director. Older students may attend classes on the main campus or in any of the off-campus locations within the community. Special classes may be set up at churches or community centers.

## SHORT SUMMER SESSION

Short Summer Session allows students from other colleges and universities to take transfer and other courses during their summer vacations. High school graduates can begin their college careers in these six-week concentrated sessions prior to beginning the Fall term at CPCC or transferring to another school. Students who are currently enrolled in high school can participate in CPCC's Concurrent Enrollment Program during Short Summer Sessions, as well as during other quarters.

## WEEKEND COLLEGE

Weekend courses offer a variety of topics and workshops each quarter, and essentially fall into two formats: classes which meet on Saturdays for an 11-week period; and classes which meet on Friday evenings and Saturdays for fewer than 11 weeks (usually three to five weeks, depending on subject matter).

Weekend College is designed to meet the needs of those who cannot attend classes weekdays or evenings.





# Academic Policies

## ADMISSIONS INFORMATION

Central Piedmont Community College follows an "open-door" policy which does not impose restrictive standards for admission. Admission to CPCC is open to all qualified students without regard to color, creed, handicap, race or sex, who are at least 16 years of age. Admission to the College-at-large, however, does not imply that students will be admitted immediately to a program within the College that may have specified admission requirements.

In most cases, before students are admitted to their program of study, a series of placement tests is scheduled and an academic advising interview is arranged. Placement tests determine skill levels in mathematics, English and reading.

All *degree* programs and *health career diploma* programs require a high school diploma or the equivalent. The high school graduation requirement is considered to have been met by graduation from high school with a high school diploma, or possession of a State High School General Equivalency Certificate (G.E.D.), or by possession of an Adult High School Diploma.

Admission to *other diploma* programs normally requires a high school diploma or the equivalent; however, exceptions may be made on an individual basis.

Central Piedmont Community College accepts credits from accredited colleges and technical institutes. Only courses applicable to the program of study at CPCC in which grades of "C" or better have been earned will be accepted. Program counselors are responsible for the evaluation and official transfer of credits from other institutions.

Applicants wishing to enroll in any program offered by the College should:

1. Obtain a Student Data Form from the Information/Admissions Center in the Terrell Administration Building (second floor). Applications may also be requested by mail or telephone. (See #3 below for mailing address; telephone 704/373-6687.) The applicant's Social Security number, which becomes the student identification number, should be listed on the form. (Students on F-1 visa are assigned a special number by the International Student Adviser.)
2. Submit the completed application to the Information/Admissions Center or return by mail.
3. Request that official transcripts of all high school, pre-college and college work be sent from each school to: Admissions, CPCC, P.O. Box 35009, Charlotte, NC 28235. (Transfer students from other accredited colleges do not need to have their high school transcripts forwarded.)
4. Take placement tests if these are required for the program of study.
5. When notified, complete an academic advising interview with the program counselor. At this time, an overview of CPCC and the program will be presented, and a recommended schedule of classes for the first quarter of study will be discussed with each student.

6. Register for classes. The Social Security number, which becomes the student's identification number, will be needed to complete the registration process. (Students on F-1 visa see #1 above.)

The College recognizes that many adults in the community will wish to register for only one or two courses as *special credit students*. In order to encourage this type of enrollment, the College will allow a qualified person to be admitted to the College and to enroll for most courses without taking placement tests or completing an academic advising interview, provided that the person has met all prerequisites and does not intend to complete a degree or diploma program.

## International Students

Central Piedmont Community College is authorized under Federal law to enroll alien students. Accordingly, a Certificate of Eligibility (Form I-20) will be issued to anyone who meets admission requirements, provided that the quota for that particular country is not filled.

Any foreign national (non-immigrant) who is seeking admittance under an F-1 student visa is required to buy and renew medical insurance (every quarter) from International Underwriters Insurance Company prior to registration. Insurance applications may be obtained from the International Students Adviser's Office, Kratt Hall, Room 102.

Legal residents with permanent visas (Alien Registration Card holders) are admitted to Central Piedmont Community College in the same manner as native citizens of the United States of America. International visitors holding B-2 or other visas may enroll as special credit or extension students as long as they hold a valid visa.

For information about tuition charges, refer to the Residence Status section of this catalog.

If you have other questions, call the International Student Adviser, Kratt 102, 373-6456.

## ATTENDANCE

Absences seriously disrupt a student's orderly progress in a course, and significantly diminish the quality of group interaction in class. There is also a close correlation between the number of absences and the final grade. Although an occasional absence may be unavoidable, it in no way excuses a student from meeting the requirements of the course. Students are still responsible for preparing all assignments for the next class and for completing work missed. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course, as well as authority to determine whether the student shall be reinstated.

## AUDITING COURSES

A student auditing a course is expected to attend regularly, but may choose not to take examinations, and will not receive college credit. Each student must request audit status from the instructor at the first class meeting.

The extent to which an auditing student participates in

class assignments will be decided by the student and the instructor. For tuition and fee purposes, an audit requires full course payment. A record of the audit shall be entered on the student's transcripts as AUD with no college credit given. It cannot later be converted to a letter grade. Procedures for registering or withdrawing from AUD courses are the same as for any other course.

Certain courses (such as First Aid or CPR) may be designated as inappropriate for audit.

## COURSE LOAD

Students registered for at least 12 hours of credit are considered full-time students. Overload hours require permission from a program director, program counselor, or assistant to the program vice president. Overload forms are available at the Information/Admissions Center or the Counseling Appointment Desk on the second floor of the Terrell Building, or at any of the Area Learning Centers. The signed overload form should be presented when registering.

Overload levels are:

Career Programs . . . . .	21 or more hours
Transfer Programs . . . . .	20 or more hours
Associate in General Education . . .	20 or more hours

## COURSE SUBSTITUTION

Course substitutions are permitted upon the recommendation of the program department/division head and with approval of the vice president.

## COURSE WAIVER

Students may be permitted to waive a course which is ordinarily required if approval is obtained from the program department/division head and vice president. No credit hours shall be granted.

## CREDIT BY EXAMINATION

Upon petition from a student, credit by examination may be given. If circumstantial evidence indicates the probability of special aptitude or knowledge on the part of the petitioner, a written, oral and/or performance examination will be developed and administered by an instructor of the course. The examination is subject to the approval of the department head. Prior to the administration of the examination, the student will be interviewed by the instructor to determine the student's eligibility for the examination. If the student achieves satisfactory performance on the examination, a grade of "X" will be recorded. The "X" grade carries no quality points, but credit hours will be given identical to the number of credit hours normally assigned to that course at Central Piedmont Community College.

## FACULTY ADVISEMENT

Students who are enrolled in a program and are experiencing academic difficulties and/or inability to complete courses will be mailed notices of required conferences with faculty advisers prior to registration.

## GRADUATION REQUIREMENTS

### Degrees:

Central Piedmont Community College awards four degrees: the *Associate in Arts*, the *Associate in Fine Arts*, the *Associate in Applied Science* and the *Associate in General Education*.

**The Associate in Arts Degree and The Associate in Fine Arts Degree:** (A two-year degree acceptable for transfer to senior colleges and universities). Requirements:

- Completion of required 1000- and 2000-level courses totaling a minimum of 96 credit hours;
- Official copies of high school and other college transcripts on file in the student's record folder at CPCC;
- A minimum of 32 quarter hours must be earned in residence at Central Piedmont Community College, 16 of which must be the final credit hours prior to graduation.
- Completion of a minimum of 32 additional quarter hours if the student has previously earned an Associate in General Education Degree.

**The Associate in Applied Science Degree.** Requirements:

- Completion of required courses in the student's program of study totaling a minimum of 96 credit hours;
- Official copies of high school and other college transcripts on file in the student's record folder at CPCC;
- A minimum of 32 quarter hours must be earned in residence at Central Piedmont Community College, 16 of which must be the final credit hours prior to graduation.
- Completion of a minimum of 32 additional quarter hours if the student has previously earned an Associate in General Education Degree.

**The Associate in General Education Degree.** Requirements:

- Completion of at least four courses from three of the following disciplines (one of which must be English): English, Social Science, Science or Mathematics, Humanities, Performing Arts or Fine Arts;
- A maximum of 24 quarter hours in 9000 courses may be used;
- Completion of 96 hours of college credit courses;
- Completion of 32 additional hours of college credit courses if the student has previously earned another degree;
- Official copies of high school and other college transcripts in the student's record folder at CPCC;
- A minimum of 32 quarter hours must be earned in residence at Central Piedmont Community College, 12 of which must be the final credit hours prior to graduation.

### Diplomas:

Central Piedmont Community College also awards



diplomas in various programs. Requirements:

- Completion of a minimum of 64 credit hours of required study in programs of vocational career study;
- Official copies of high school and other college transcripts on file in the student's record folder at CPCC;
- The final 15 hours in diploma programs taken in residence at CPCC.

### Certificates:

Certificates for certain courses having specific requirements are awarded by various departments at CPCC.

## GRADUATION—PROCESSING OF DEGREES/DIPLOMAS

1. If a student is within two quarters of graduation, including the current quarter of enrollment, a Graduation Request Form should be obtained from the Graduation Certification Office in the Terrell Building (Room 218-219), phone 373-6525 or 376-6636.
2. After receiving this form, staff in the Graduation Certification Office will review all records in the student's folder and will provide a list of courses that must be completed in the final quarter of study, as well as a list of any documentation that is incomplete.
3. Upon successful completion of the final courses required for graduation, a notation of the degree or diploma and the date of graduation is entered on the student's CPCC transcript. Graduates may request copies of their transcript from the Office of Student Records (TE 200) whenever it is necessary to provide documentation of completed course work and related training for employers and others requiring this information.
4. Graduates who would like an engraved degree or diploma, suitable for framing as a memento, need to fill out a Degree/Diploma Order Form in the Graduation Certification Office (Terrell Building, Room 218-219) the last two weeks of their final quarter of study. This form is then presented to the Business Office with payment of \$8.00\* to cover the cost of engraving and mailing. Degrees and diplomas are mailed to graduates by the Graduation Certification Office during the following quarter.

\*NOTE: This cost is subject to change without notice.

## GRADES

The following letter grades are used at CPCC:

- A The student has met the maximum obtainable objectives established for the course as set up by the instructor and the division/department involved.
- B The student has met objectives far above standard course work as set up by the instructor and the division/department involved.
- C The student has met the minimum objectives of the course as set up by the instructor and the division/department involved.
- IM INCOMPLETE MAKE-UP. The student, in the

opinion of the instructor, has made substantial progress toward, but has not met, the minimum objectives established for the course. Removal of the IM may be accomplished by the completion of the remaining objectives in a manner and time decided upon by the student, instructor, and department/division head involved. In computing Quality Point Average, an IM will not count as credit hours attempted. The student should *not re-enroll* to remove an IM. An IM must be resolved within two quarters.

IR INCOMPLETE REPEAT. The student has not, in the opinion of the instructor, made substantial, if any, progress toward the minimum objectives established for the course and is likely to benefit by repeating the course. In computing Quality Point Average, an IR will not count as credit hours attempted. The student *must re-enroll* to remove an IR.

S SATISFACTORY. The student has performed satisfactorily. This grade is used for certain courses instead of an A, B or C grade.

X CREDIT BY EXAMINATION. The student has successfully completed a course examination approved by the department/division.

W INSTRUCTOR/STUDENT WITHDRAWAL. The student has officially withdrawn from the class, or has been withdrawn by the instructor because the student never attended class or was out of contact with the instructor/class for two consecutive weeks.

AUD AUDIT. An audit grade is an optional grade for students who do not wish to receive credit for a credit course. Students must inform the instructor at the first class meeting that an audit grade is requested. A student auditing a class is expected to attend class regularly. (See Policy—Auditing Courses.)

## GRADE POINT AVERAGE (Quality Point Average)

The College uses a Quality Point Average system based on 4.0, which equals an "A." "B" equals 3.0; "C" equals 2.0. Overall average is determined by dividing total quality points by total hours completed. A student's Quality Point Average is the equivalent of the numerical average for all course work completed. IM's and IR's are not included when computing QPA.

## RECORDS AND TRANSCRIPTS

The College maintains the position that students' records are their own property; therefore, this information is released only when a student signs a Records Release Form in the Office of Student Records (Room 200, Terrell Building). Students may have copies of their transcript sent to any institution or individual they choose. They may also order copies for their own use. The first two copies are free; \$1.00 is charged for each additional copy.

## REGISTRATION

Registration dates are published in the College calendar (front of this Catalog) and in the quarterly Class Schedules.

The College year consists of four quarters: Fall, Winter and Spring quarters (11 weeks) and Summer quarter (9 weeks). The Summer is considered the same as other quarters where course offerings are concerned, and also includes a short sessions (6 weeks). Students are encouraged to register as early as possible to avoid the inevitable delays of final registration and to increase the probability of obtaining the schedule of classes which best meets their needs.

Ways to register, as indicated for each class on the Class Schedule, include: on-campus; Matthews Area, West Area and North Area Learning Centers; mail-in; telephone, and in-class.

## REPEATING SUCCESSFULLY COMPLETED COURSES

If students wish to repeat a course in which they have received passing grades twice, they must secure departmental permission before being permitted to register again for that course. *Exception:* Successfully completed HPE courses may not be repeated without Division/Department head approval.

## SCHEDULE ADJUSTMENT

Students may make schedule adjustments throughout the announced registration period. A special schedule adjustment week following the close of the registration period

provides an opportunity for students PREVIOUSLY REGISTERED to make required adjustments to their schedules. Classes may be dropped for a full refund of tuition. *Exception:* Tuition will not be refunded for self-supporting classes or classes numbered 7000-8000. During the schedule adjustment period, students may add a class only to replace a class dropped because of class cancellation or an error made in preparing their schedule. During the schedule adjustment period, students may switch class sections (i.e., classes) without obtaining written permission provided the new class section is not filled. Should students make an error in registering for a class (i.e., register for a math class that is too advanced), adjustment to correct the error may be made if department head approval is obtained. Such approval must be in writing and specify the error made, as well as the change required to correct it.

*NOTE: See Refund Policy.*

## WITHDRAWAL FROM CLASSES

Students who cannot complete a course for any reason should *officially* withdraw through the Registration Center prior to the last ten calendar days of the quarter in order to receive a final grade of "W." Exceptions to the ten-day deadline can be made in hardship cases with the approval of the program vice president.

If students are out of contact with the instructor for two consecutive weeks, the instructor may officially withdraw them from the course. In these cases, the instructor has the authority to reinstate them. However, it is the students' responsibility to be sure they are officially withdrawn from a course in order to avoid an IR grade.





## Finances

Since the College receives financial support from local, state and federal sources, tuition is very low. Tuition charges are set by the North Carolina State Board of Education and are subject to change without notice.

### TUITION

For *in-state students* registered for credit courses, tuition and fees are as follows:

Students enrolled for 12 quarter hours or more—\$51.00 per quarter. Students enrolled for fewer than 12 hours—\$4.25 per quarter hour.

Non-credit courses in the Continuing Education Program are charged a registration fee of \$10.00 for courses numbered in the 7000's and 75¢ per contact hour for courses numbered in the 8000's. There is no charge for individuals taking extension courses leading to a high school diploma or its equivalent. Self-supporting courses are charged for at the rate of \$1.25 per contact hour. Tuition and the student publication and activity fee (\$1.00) must be paid at registration.

*Out-of-state students* will pay tuition each quarter as described below:

Students enrolled for 12 quarter hours or more—\$255.00 per quarter. Students enrolled for fewer than 12 hours—\$21.25 per quarter hour.

### FEE

There is a Student Publication and Activity Fee of \$1.00 per student per quarter. This fee is used to support CPCC's publications, such as the student newspaper, a yearly publication of student poems, short stories and essays, and a Student Handbook, available through the Student Association in Taylor Hall.

The fee also helps support CPCC's 40 clubs, special fun days, entertainment, and men's and women's athletic teams.

### STUDENT INSURANCE (Optional)

CPCC has approved an Accident Medical Plan for students. The plan insures students against loss resulting from accidental bodily injuries sustained while on campus or while participating in or attending an activity exclusively organized, sponsored and solely supervised by the College and College employees, including travel directly to or from such activity in a vehicle furnished by the College.

The plan pays the cost of medical and surgical treatment, including hospital confinement and the service of a trained nurse, for such treatment incurred within one year from the date of accident, up to \$1,000 for each accident.

Coverage begins at the time tuition and the \$1.50 insurance fees are paid at registration. Coverage ends at the end of that quarter.

### REFUND POLICY

Students will have their entire tuition refunded if they withdraw from class(es) before the end of the schedule

adjustment period. **Exceptions:** Tuition will not be refunded for self-supporting classes or classes numbered 7000-8000.

Two-thirds (2/3) of students' tuition will be refunded if they totally withdraw from the College by the 10th calendar day after the first day of classes. **Exceptions:** Tuition will not be refunded for self-supporting classes or classes numbered 7000-8000.

If students withdraw from a class(es) after the 10th calendar day following the first day of classes, no refund will be given.

If a class is cancelled by the College, tuition will be automatically refunded by mail on a proportionate basis through the Business Office (allow six weeks).

### RESIDENCE STATUS

A legal resident of North Carolina is one who has domicile in the State. It is important that all applicants for admission and all enrolled students know their residence status for tuition payment, and understand the regulations governing status. The "Student Residence Manual" is available for review in the Office of Student Records (TE 200). The following regulations cover most situations:

1. Persons 18 years of age or older are not deemed eligible for the lower tuition rate unless they have maintained legal residence in North Carolina for at least the twelve months preceding the date of their enrollment in an institution of higher education in this State.

2. The legal residence of a person under 18 years of age at the time of enrollment in an institution of higher education in this State is that of the student's parents, surviving parent or legal guardian. If the parents are divorced or legally separated, the legal residence of the minor is that of the parent to whom legal custody has been awarded. If custody has been awarded to one parent, the domicile of the minor is that of the parent with whom the minor lives.

3. The residence status of all students is determined at the time of their enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (a) in the case of a nonresident minor student at the time of enrollment whose parents have subsequently established legal residence in North Carolina; (b) in the case of a resident who abandons legal residence in North Carolina; and (c) in the case of a non-resident student at the time of enrollment who has established legal residence in North Carolina and has maintained that status for the preceding twelve months. **Please note:** Students previously classified as non-resident who feel they now meet the residence requirements must contact the Director of Student Records for approval and for completion of the proper change of residence form.

4. Military personnel attached to military posts or reservations in North Carolina are not considered eligible for the lower tuition rates unless they have maintained a legal residence in the State for at least the twelve months preceding the date of enrollment in an institution of higher education in this State.

5. Aliens who have been lawfully admitted to the United States for permanent residence in North Carolina,

according to the above paragraphs, are eligible for the lower tuition rate. A person holding a student visa cannot be classified as a resident for tuition purposes.

Foreign nationals holding an Alien Registration Card (Form I-151) and other foreign non-immigrants holding work permits (Visas A, E, G, I, K or L-1), as well as Southeast Asian Refugees, may be eligible for in-State tuition twelve months or more after their visa was issued. In these cases, they must provide documenting evidence that they have lived in North Carolina for at least 12 consecutive months (i.e., a statement from Southern Bell indicating that they have had a telephone in their name at the place of residence for at least 12 months, a statement from their employer that they have lived and worked in North Carolina for at least 12 months, or other acceptable documentation).

6. Ownership of property in or payment of taxes to the State of North Carolina apart from legal ownership will not in itself qualify a person for the lower tuition.

7. Any students or prospective students who have reason to believe they have been classified incorrectly for higher tuition must bear the responsibility for securing a ruling by stating their case in writing to the Director of Student Records or the Director of Registration. Written request for a ruling shall be reviewed by the Vice President for Administrative Services or the Vice President for Student Development who may contact the student in order to secure additional information. Upon receipt of this ruling (if unfavorable), the student may appeal to the College Appeals Committee by making written request to the Director of Student Records and completing the Residency Questionnaire as prescribed by the "Student Residency Manual." A final residentiary decision by the College may be appealed to the State Residence Committee.

## FINANCIAL AID PROCEDURES

Students who are enrolled or accepted for enrollment in at least a six-month program leading to a certificate, diploma or degree may apply for financial assistance. Individuals who are not U.S. citizens or who are non-permanent residents are generally not eligible to receive financial aid. Check with the Financial Aid Office (Terrell Building, fifth floor) for determination of eligibility.

In considering an applicant for aid, the student's entire living expenses are taken into account, not just tuition and book costs. Students taking fewer than 12 credit hours but at least six credit hours may receive aid reduced in proportion to their academic load. Awards generally range from \$50 to \$4,000 per year and come from or more of the following sources:

1. North Carolina Student Incentive Grants
2. Pell Grants
3. Supplemental Educational Opportunity Grants (SEOG)
4. The College Foundation, Inc.
5. Emergency Short-Term Loans
6. National Direct Student Loans
7. Nursing Loans
8. Local Scholarships
9. The College Work-Study Program

Pell Grants and employment through the College Work-Study Program comprise the majority of grants or loans awarded to students.

Because Central Piedmont Community College defines its academic year as 12 months, financial aid awards are made on that basis. Students are encouraged (in some cases required) to attend consecutive quarters until the program of study is completed in order to remain in proper sequence. The Summer quarter is a full quarter with no significant reduction in course offerings and is not regarded to be "optional" as summer periods often are at traditional institutions.

For more detailed information about the types of aid available, eligibility, application procedures and policies, refer to the *Student Financial Aid* brochure, which is published annually. Brochures are available from the Financial Aid Office upon request. This office is located on the fifth floor of the Terrell Building. Telephone 373-6942.

## Satisfactory Progress

To receive Title IV financial aid funds, students must meet the College definition of SATISFACTORY PROGRESS. This definition reads: "Satisfactory Progress is defined as the satisfactory completion of either a minimum of six credit hours per quarter or 50% of the credit hours carried (whichever is less) within the number of quarters required for completion of a student's particular program as outlined in the CPCC Catalog plus three (3) additional quarters."

Any quarter during which a student receives financial aid shall be counted. At the end of the number of quarters required to complete a particular program plus the additional three quarters (allowing for failing, program change, remedial courses, etc.), all financial aid will be discontinued. This definition affects only eligibility for financial aid and is not applicable for purposes of continued enrollment in a program, since such determination will be made by the College in accordance with institutional policy.

## Probation

Financial aid recipients will be granted a one-time, one-quarter probationary period following their first quarter of failure to make satisfactory progress. Aid will not be terminated during this quarter if the student receives financial aid counseling.

Students who fail to make satisfactory progress during the one-time probationary quarter will not be reconsidered for aid until their progress is again satisfactory.

Students with extenuating circumstances are encouraged to use the appeal process.

## Appeal Process

Students who fail to meet the definition of satisfactory progress and/or other policies and who have extenuating circumstances may appeal to the Financial Aid Committee for reinstatement. The appeal must be in writing and will be voted on at a regularly scheduled meeting.

## First Degree Waiver

Generally, students who have already earned a diploma



or degree from CPCC or elsewhere are not funded for the pursuit of a second degree. However, students may appeal as outlined above.

## FINANCIAL AID: KINDS

### North Carolina Student Incentive Grants

Legal residents of North Carolina accepted for enrollment or enrolled full-time, in good standing, in an undergraduate program of study in an eligible college, university, technical or vocational school in North Carolina may apply for Student Incentive Grants to help pay their educational expenses. Students must demonstrate "substantial financial need" as determined through the need analysis system of either the College Scholarship Service or American College Testing Program. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education but may not exceed \$1,500 per academic year. Students must apply before March 15. This grant is not available during the Summer quarter.

### Pell Grants

The Pell Grant Program provides federal funds for qualified students enrolling at least half-time in a program which is at least six months long in an eligible institution of higher education. The grants, which do not have to be repaid, are based on schedules and formulae approved by Congress annually. The maximum grant at Central Piedmont Community College is approximately \$800 per year for in-State residents and \$1,050 for out-of-State residents. Students with Bachelor's degrees are not eligible.

### Supplemental Educational Opportunity Grants

The Supplemental Educational Opportunity Grant Program provides gift aid to students with demonstrated financial need. The amount of the grant is based upon the applicant's need and availability of funds at the College. These grants do not have to be repaid. Students with Bachelor's degrees are not eligible.

### The College Foundation, Inc. Loans

The College Foundation, Inc., Raleigh, North Carolina, administers several loan funds, including the Guaranteed Student Loan Program. Legal residents of North Carolina who are attending at least half-time at an institution of higher education are eligible to apply. Independent students and dependent students may borrow up to \$2,500 per year. The Federal Government will pay the 9% interest on the loan while the student is in school and before repayment begins for students who qualify for federal interest benefits. The minimum repayment is \$50.00 per month, plus interest, and the loan must be repaid within 10 years. Applications may be obtained from the Financial Aid Office.

### Emergency Short-Term Loans

A limited amount of money is available to assist students in emergency situations. Assistance of this type is generally limited to \$50, or tuition and fees, whichever is less, and must be repaid within 90 days.

## National Direct Student Loan Program

Central Piedmont Community College participates in the National Direct Student Loan Program. This program makes funds available to students who are taking at least a half-time schedule in one of the diploma or degree programs and who need a loan to meet educational expenses.

The National Direct Student Loan Program makes provisions for students to borrow up to \$2,500 during their first two years of college. Repayment begins six months after the borrower ceases to pursue a course of study at an institution of higher learning, and 5% interest per year is charged on the unpaid balance.

## Nursing Student Loan Program

The Nursing Student Loan Program assists students who need financial aid to pursue a course of study leading to an associate degree in nursing. The goal is to increase the opportunities for individuals seeking careers in nursing by providing long-term, low-interest loans to students who are in need of such assistance. The maximum Nursing Student Loan available to an individual borrower in a 12-month period is \$2,500.

## Scholarships

Students do not usually apply for specific scholarships at Central Piedmont Community College. All qualified applicants are considered for available scholarships. The total value of a scholarship awarded to a student is payable in amounts prorated to each quarter of the College year. Awards are based upon financial need and/or academic proficiency. An award for the second year may be made upon approval of a new application and continued satisfactory academic performance. A complete listing of the scholarship donors is to be found in the *Scholarship and Short Term Loan Fund* brochure available upon request from the Financial Aid Office.

## Work-Study Program

A major form of financial aid available to students consists of employment through the College under the Federal College Work-Study Program. A schedule is arranged so that students work part-time around their classes either on-campus, at Area Learning Centers, or at a non-profit agency in the Charlotte-Mecklenburg area. The hourly pay rate is equal to at least the Federal minimum wage.

## FINANCIAL ASSISTANCE FOR VETERANS AND ELIGIBLE PERSONS

The College provides educational opportunities for veterans, disabled veterans and eligible persons (spouse and/or dependents) of deceased or disabled veterans, those missing in action, and prisoners of war on both the college and high school levels. For additional information regarding these benefits which are administered by the Veterans Administration, persons should contact one of the following offices: the County Veterans Service Office, the District Office of the North Carolina Department of Veterans Affairs, or the Veterans Administration Regional Office, Winston-Salem, N.C.

The College also assists recipients of North Carolina Veterans Commission Scholarships. Students seeking these scholarships should contact the state office, district office, or the College Office of Veterans Affairs (Terrell Building, second floor).

### Academic Requirements

The Veterans Administration has determined that the College has a *"non-punitive" grading policy* for veteran benefit purposes. This means a veteran/eligible person must pass required program courses for VA benefits unless there are mitigating circumstances acceptable to VA. Grades that are excluded from calculation in graduation requirements are prohibited under this policy.

Class attendance is necessary. "Full-term" attendance is expected through the last scheduled class session of the quarter. CPCC instructors are required to report promptly the *last date of attendance*.

### Reporting Procedures

Guidelines in reporting requirements to VA:

- Veterans will not be penalized for official drops or withdrawals during a VA-established drop/add period of 30 calendar days.
- Pay adjustments for unofficial drops at any time, and official drops or withdrawals after 30 days, will be retroactive to the first day of the quarter unless there are mitigating circumstances acceptable to VA.
- Pay adjustments for *"never attended"* will be retroactive to the first day of the quarter or the last day of the previous enrollment, whichever is applicable.
- No pay will be awarded for any IM, IR or W unless there are mitigating circumstances acceptable to VA.
- Documentation may/will be required by VA for any mitigating circumstances.
- Any overpayments will have to be repaid to VA.

### Mitigating Circumstances

Some examples acceptable to VA: (This list is not all-inclusive, according to VA.)

- Demonstrated "good faith" pursuit. This includes evidence of receipt of tutorial, adviser or counseling services.
- Accident, illness or death (personal or immediate family).
- Military, National Guard or Reserve duty training.
- Job conflict or financial problems requiring changes in employment, class schedule adjustment or drops which precluded satisfactory pursuit of course.

### For All Veterans

Veterans are responsible for notifying the College OVA and the VA immediately of any change in their student status, such as drop/adds, stopped attendance, withdrawal, program changes or graduation. All status changes and course-load adjustments for poor attendance will be reported to VA promptly. There will be no reinstatements for non-attendance for the quarter in which it was reported, unless there are mitigating circumstances. For further information, contact the College Office of Veteran Affairs.

### Degree and Diploma Veterans

Faculty/instructors are required to submit "CPCC Veterans Exceptional reports" through their department head or vice president to the College Office of Veterans Affairs immediately after a student has missed two consecutive weeks or stops attending before the end of the term.

### Diploma Veterans

Diploma Veterans (trade, adult high school, and GED) are required to turn in attendance sheets each month. They are due no later than the fifth of the following month and the last day of each quarter. Failure to turn in this report will result in prompt termination of benefits.

### Records

"Records of Progress" are kept by the College on both veteran and non-veteran students. Progress records are furnished to all students, veterans and non-veteran, at the end of each scheduled school term.

*NOTE: Veterans may attend CPCC as regular students regardless of their VA benefit status. Veterans should see other information in this Catalog concerning all students.*

## SOCIAL SECURITY ADMINISTRATION AND OTHER GOVERNMENT AGENCY BENEFITS PROGRAMS

The College provides advisement and certification services for students (adult basic, high school and college levels) who are eligible for Social Security, Civil Service, Railroad Retirement, N.C. National Guard Tuition Assistance, Active Military Personnel Tuition Assistance, and Armed Forces Reserve Benefits. Students seeking assistance under these programs should contact the respective agency or the College Office of Veterans Affairs.



# Student Development

The Student Development Division provides many kinds of assistance and activities which enable students to broaden their educational experiences and overcome problems that may interfere with their academic success.

## STUDENT ACTIVITIES

### Student Association

The Student Association, of which every registered CPCC student is a member, consists of a Student Council and 23 Program Area Committees. Program areas elect students to the PAC's and, in turn, members of the PAC's are appointed to the Student Council. This is a unique concept of student representation and every interested student is urged to participate. A copy of the Student Association constitution and other information about the Student Association is available in the Student Activities Office (Taylor Hall, room 102).

### Student Organizations

The College encourages participation by students in all areas of campus life. Student organizations are chartered by the Student Association and are aided in the planning of their activities by the Director of Student Activities and in the financing of those activities by the Student Association. These organizations include service organizations, special interest groups, athletic clubs, honor societies and professional organizations. A complete list of organizations is included in *The Student Handbook* or in the Student Activities Office, Taylor Hall 102.

### Student Publications

The area of Student Activities utilizes a variety of communication methods, including a *Student Newsletter*, and *The Spark*, a student newspaper (five issues quarterly) to keep students informed of campus activities. The *Literary Magazine*, published annually, serves as a showcase for creative writing and graphics. *The Student Handbook* is published as needed, and contains much useful information for students and serves as a guide to those unfamiliar with the campus.

Further information is available in the Student Activities Office (Taylor Hall, Room 102) 373-6751.

### Sports

Several sports for men and women, indoor and outdoor, make up the intramural program. Basketball, volleyball, badminton and other intramural programs in which students show an interest are played in the multi-purpose room in Taylor Hall. Outdoor sports include tennis, golf and softball. In some of these, individuals are chosen to make up All-Star teams which play area colleges.

In addition to the above, CPCC has soccer and football clubs open to all interested students. Information on athletic activities is available in Taylor Hall, room 102, or call 373-6584.

## Social and Cultural Events

The Department of Student Activities, working with the Student Association, plans and sponsors various social and cultural events during the year. Included in these activities are concerts, lectures, field days, athletic events, music and drama productions.

## Physical and Recreational Activities

Pool and table tennis tables and game machines are in the recreation center, which is located in Taylor Hall just to the right of the main lobby. The recreation center is open from 8:30 a.m. until 8:00 p.m., Monday through Thursday, and 8:30 a.m. to 4:00 p.m., Friday.

The multi-purpose room is on the left of the main lobby in Taylor Hall. There, students may exercise and play basketball, volleyball and badminton. There are also weight rooms, exercise rooms, lockers and showers. The open hours are posted and vary according to the Class Schedule.

*These recreational facilities are available only to enrolled students with current ID's.* Questions concerning schedules and activities can be answered by the attendant at the information desk in the main lobby.

## COUNSELING SERVICES

Counselors and support staff in the Counseling Services Department are available to provide information and assistance in the areas of high school articulation, admissions, G.E.D. testing, adult high school completion, orientation to the College and to programs of study, career counseling, international student processing, and graduation certification. In this regard, students may be scheduled with counselors on an individual basis or in groups.

Counselors at CPCC also provide personal counseling for students on a time-available basis. Students are referred to appropriate community agencies or resource persons when it is apparent that they can be assisted more effectively in this way. Counselors are also available to the community as consultants.

## STUDENT RESPONSIBILITIES AND RIGHTS

### Conduct of Students

College students are considered to be mature individuals. Their conduct, both in and out of the College, is expected to be that of any respectable adult in a public place. Under these circumstances, it is expected that students will remember that they are in a democratic situation and that the reputation of the institution rests on their shoulders. Common courtesy and cooperation make a long list of rules unnecessary.

However, students should note that the possession, consumption or distribution of alcohol or illicit drugs on campus or at any CPCC instructional site is specifically prohibited and regulated by State statute. Violators will be prosecuted by civil authorities.

Failure to meet standards of conduct acceptable to the College may result in disciplinary suspension. The procedure

stated below will be followed when disciplinary action against a student is being considered:

1. The student will be informed of the charges against him/her both in writing and in conference with the Vice President for Student Development or representative.
2. The student will be advised of the date, time, location and procedures of the meeting in which the charges will be presented.
3. The Vice President for Student Development has the right to suspend a student temporarily until the hearing process can be completed.
4. The charges will be described and examined at a meeting of the accusers, the student, the Vice President for Student Development or representatives, advisers, and assistants that either party wishes to bring. The Vice President for Student Development must be notified within two days of the hearing regarding anyone other than the principal parties who will be attending.
5. The Vice President for Student Development will have two days following the hearing to consult again with all parties, as may be necessary, and render a decision.
6. This decision may be appealed to the Executive Vice President and the President of the College.
7. A student who is dismissed must apply to the Vice President for Student Development before readmission can be approved.

## Student Grievance Procedure

Students wishing to appeal any decision affecting their status at Central Piedmont Community College should first appeal to the instructor or staff member making the decision. If students are not satisfied and the problem involves a program matter, appeal may be made through the appropriate curriculum Department/Division Head to the program Vice President and the President. Non-program matters follow the same route except through the Vice President for Student Development rather than a program Vice President. All such appeals should be in writing and state the basic facts of the case.

A grievance related to discrimination should first be presented to the appropriate compliance officer. Grievances related to Section 504 of the Rehabilitation Act of 1973 should contact the Director of Special Services (Terrell Building, fifth floor); for Title IX, the Personnel Director (Terrell Building, third floor).

## Student Records (Transcripts)

**Policies and Procedures:** Central Piedmont Community College, in the fulfillment of its responsibilities to students, must maintain accurate and confidential student records. The College staff must recognize the rights of students to have access to their academic and personal records in accordance with existing college policy and the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

### Definition of Term "Educational Records":

These regulations as defined under the provisions of the Family Educational Rights and Privacy Act of 1974

include files, documents and other materials which contain information directly related to students and which are maintained by an educational institution in an authority on behalf of the institution. The term "educational record," under the provisions of the law, does not include the following:

1. Records of institutional, supervisory and administrative personnel which are in the sole possession of the maker and which are not accessible or revealed to any other person except a substitute for the above named personnel;
2. Records and documents of Security Officers of the institution which are kept apart from such educational records;
3. Records on students which are made or maintained by a physician, psychiatrist, psychologist, counselor or other recognized professional or paraprofessional acting in their official capacity and which are made, maintained or used only in connection with a provision for treatment for the student and not available to anyone other than the persons providing such treatment, except that such records can be personally reviewed by a physician or other appropriate professional of a given student's choice;
4. Financial records of the parents of the students or other information therein contained;
5. Confidential recommendations if a given student has signed a waiver of the student's rights of access, provided such a waiver *may not* be required of the student; and
6. Confidential letters or statements of recommendation which were placed in educational records prior to January 1, 1975, if such records or statements are not used for purposes other than those for which they were specifically intended.

### Control Provisions on Student Records and Student Information:

1. Transcripts and other information are released only with written permission of the student. When information other than the transcript is released from the student's official record (Office of Student Records), the student will receive a copy of the release.
2. Students have the right to inspect their own records whether recorded in hard copy form or recorded in the form of magnetic disks and microfilm. Upon inspection, students are entitled to an explanation of any information contained in their records.
3. The official student file shall not be sent outside the Counseling Office, Records Office, Information/Admissions Center, Financial Aid Office, Veterans Affairs Office, or other custodial office except in circumstances specifically authorized by the appropriate Vice President. The authorization for such special circumstances must be in writing.

### Release of Student's Educational Records to Educational Institutions, State and Federal Agencies:

1. Such requests for confidential information shall not be honored without proper written consent for the release of such records by the student except under conditions



indicated in paragraphs 2 and 5 below.

- a. The written consent must specify the records or the specific data to be released, to whom they are to be released, and the reasons for release.
  - b. Each request for consent must be specific, and each request must be handled separately.
2. Request for confidential information will be honored without prior consent of the student in connection with an emergency, if the knowledge of such information by appropriate persons is necessary (in view of a reasonable person) to protect the health or safety of the student or other persons. However, such a release shall have the approval of a Cabinet officer unless it can be shown that under the circumstances time would not permit or no Cabinet officer was available.
3. The following "Directory Information" may be made available to the public by the College unless students notify the Vice President for Student Development in writing by the third week of the quarter that such information concerning themselves is not to be made available:
- a. Student's name and hometown;
  - b. Major field of study or program;
  - c. Dates of attendance, degrees, diplomas or awards received and the most recent previous educational institution; and
  - d. Place of birth.
4. Information Other than "Directory Information"—Any release of student information for public use or use by the media except that designated above (paragraph 3) must have prior written approval by the students involved.
5. Disclosure to Government Agencies—Properly identified and authorized representatives of or bona fide written requests from the Comptroller General of the United States; the Secretary of Health, Education and Welfare; an administrative head of a federal education agency; or state educational authorities may have access to student or other records which may be necessary in connection with the audit and evaluation of federal or state supported educational programs or in connection with the enforcement of the federal or legal requirements which relate to such programs. Routine requests for student data from such agencies as HEW, OEO, research agencies, and state reporting agencies may be honored without prior approval of the student only in formats where students are not identified.
6. Faculty and administrative officers of the College who demonstrate a legitimate educational need will be permitted to look at the official student file for a particular student.
7. Confidential information requested by other than federal or state agencies as specified in paragraph 5 above will be released only under the following conditions:
- a. An official order of a court of competent jurisdiction, or

b. Subpoena (students will be notified immediately by registered mail that their records are being subpoenaed.)

8. Record of Who Has Access—A record of access to the official student file will be maintained within the file itself. This record will show the *name, address, date and purpose* of the person who has been granted access. All persons who have access will be included in this record except those institutional employees who, because of the nature of their duties, have been granted access.

#### *Students' Rights to Question Content of Their Official Student Files:*

1. Students have the right to review their official records maintained by the College. Furthermore, students may question any inaccurate or misleading information and request correction or deletion of such data from their files.
2. All such requests will be sent to the Director of Student Records and will become a part of that student's file.
3. All requests for correction of a student file will be acted upon within 45 days of receipt of the request. If the custodian can verify that such data are, in fact, in error, appropriate corrections will be made and the student will be notified in writing when the correction has been completed. If an error cannot be readily substantiated, the request will be referred to an Ad Hoc Hearing Committee appointed by the Executive Vice President.

After students have had the opportunity to present their case to the hearing committee, the committee will render a decision in writing stating the reasons for its decision. If the decision is in agreement with the students' request, the students will be permitted to review their file to satisfy themselves that the change has been made correctly. If the students' request is denied, they will be permitted to append a statement to the record in question, showing the basis for their disagreement with the denial. Such appendages will become a permanent part of the record.

#### *Annual Notice to Students of Their Rights Under Family Educational Rights and Privacy Act of 1974:*

The College policy on access to and release of student information will be made available to students, faculty and staff. This information will be placed in the Student Handbook and will specify the procedures for release of student information, student access to records, a description of all student records being maintained by the College, and the procedure for students to initiate a hearing to challenge accuracy of educational records.

## SUPPORT SERVICES FOR STUDENTS

### DOLLY (*Dial Our Listening Library Yourself*)

DOLLY is a telephone system which provides free listening experiences to anyone who calls 373-6400. More than 600 taped programs are available.

DOLLY is in operation 24 hours every day. From 8 a.m. until 10 p.m. Monday through Thursday, and 8 a.m. until 5 p.m. Friday, you may hear any tape in DOLLY's collection by dialing 373-6400 and requesting the program you want to hear. During all other hours, consult DOLLY's weekly schedule in the comics section of *The Charlotte News* or *TV Week*, and the comics section of *The Charlotte Observer*.

A catalog of DOLLY's programs is available at the circulation desk of the Library. If you would like to have this catalog mailed to you, call 373-6703.

### Drop-In Center

The Drop-In Center is a warm and friendly place where students can find many kinds of help from specially trained fellow students. The Center is located on the second floor of the Learning Resources Center and is open from 8:00 a.m. until 8:00 p.m. Monday through Thursday; 8:00 a.m. until 5:00 p.m. on Friday.

### First Aid Team

Central Piedmont Community College's first aid team consists of faculty and staff volunteers. Team members are certified in Standard First Aid and CPR. Two members are on duty from 8:30 a.m. until 4:00 p.m. Monday through Friday. The telephone number for on-campus medical emergencies is 6444.

### Housing

The College does not provide living accommodations for students. In all cases, students are responsible for making their own arrangements for housing.

A card file of available rooms and apartments is maintained in the Office of Student Activities (Taylor Hall, Room 102). Many of these accommodations are within walking distance of the College or are conveniently located to bus service. Students should be aware that the College does not verify or endorse information in this card file. A dormitory for women students is located near the main campus, where room and board or room only plans are available.

### Lost and Found

On campus, a lost and found service is located on the second floor of the Terrell Administration Building at the Information/Admissions Center. Inquiries regarding lost items should also be directed to the receptionist areas of other buildings on campus.

### Mini-Courses

Mini-Courses are self-instructional learning modules designed to fulfill the education needs of: persons who wish to learn part of a subject or skill without having to take an entire course; those who want to learn something new in order to broaden skills and knowledge and enrich their lives; and those who need a certain skill to obtain employment or

advance in present jobs. For further information call 373-6708.

### Program Awareness Tapes (PAT)

From 6 p.m. until 8 a.m. weekdays and throughout the weekend, telephone calls to certain CPCC numbers will activate a three-minute tape explaining various programs, requirements, job outlooks, and how to get started in the program. The CPCC Class Schedule carries a list of these programs and telephone numbers.

### Reading Clinic

The Reading Clinic operates on a walk-in basis to provide reading assistance to students. The Clinic is located on the second floor of the Learning Resources Center and provides diagnostic and referral services for students who wish to improve their reading skills. The Clinic also provides tutoring for those in need of basic reading instruction.

### Small Business Center

The Small Business Center, located on the second floor of the Citizens' Center, offers support to individuals who want to start a small business or who need help to stay in business. It does this by determining the needs of area small businesses, providing information (Small Business Library), referrals, classes and seminars to meet those needs, and working with various community agencies: the Small Business Administration; SCORE (Service Corps of Retired Executives); the Greater Charlotte Chamber of Commerce; the Federal and North Carolina Departments of Commerce; and the Minority Purchasing Council. The Center acts as a central clearinghouse to refer small business owners/managers to specific sources of assistance which will meet their special needs.

### Student Employment and Career Planning Center

This office is located in the Garinger Building, Room 239. Staff in the Center assist students in seeking part-time or full-time employment and in exploring their career/life plans.

### Testing Center

The Testing Center on the fourth floor of the Learning Resources Center administers a wide variety of tests for instructional, placement and special purposes.

The Center's physically attractive atmosphere and low-key method of operation help reduce anxiety about taking tests. Course tests are taken within time-frames designated by instructors.

Instructors find that there is more class time available for discussion by reducing the number of classroom hours given up for testing.

The Center also assists faculty in test development, administration, grading, analysis and research. As a result, improved student competency is reflected in mastery of measurable instructional objectives.

### Women's Career Center

The Women's Career Center, in the lobby of Taylor Hall, responds to the current needs of women in the Charlotte-Mecklenburg area by providing flexible, varied



educational opportunities. Some of the services are: recruitment and support for women who would like to come to CPCC for courses and/or degree programs; luncheon seminars and courses in career development and personal growth for displaced homemakers or women in transition; telephone information on a variety of concerns or needs or women; help about entering the job market.

The Women's Career Center is a member of Catalyst (NYC), a national network of centers providing career and educational literature and materials—one of only four centers in North Carolina, and has a resource library on career interests and career development issues for women.

The Women's Career Center also publishes a monthly newsletter. To be included on the mailing list, call 373-6644 or send your name and address to the Women's Career Center Newsletter, CPCC, P.O. Box 35009, Charlotte, NC 28235.

Office hours are weekdays from 9 a.m. to 5 p.m. For more information call 373-6644.

## **SUPPORT SERVICES FOR EXCEPTIONAL STUDENTS**

The College is aware that the implementation of the "open door" policy will bring to its campus students whose physical and mental abilities are relatively impaired. The College strives to assure that there are equal opportunities and accessibility to these individuals regardless of their disabilities.

The Department of Special Services is responsible for providing support services to students with disabilities. It was established in 1971 in response to continuing efforts by the College to bring to fruition its educational philosophy: "The doors of Central Piedmont Community College are open and accessible to all adults seeking to further their education." These support services are available to the visually impaired, hearing impaired, physically or motor impaired, learning disabled, and emotionally and mentally handicapped. Offices of the Special Services Department are located on the fifth floor of the Terrell Building. For more information, call 373-6621 (voice) or 373-6421 (TTY).

### **Reasonable Accommodation**

CPCC believes that a meaningful educational experience can result only when the College and the student make reasonable efforts to provide an accessible educational environment. The College is also concerned with the possibility that over-accommodation may in the long run be detrimental to a student's development. Therefore, students are encouraged to develop skills for independent living and independent action.

### **Pre-Admission Interview and Campus Visit**

Before a student makes the final decision to enroll at CPCC, the College recommends that all disabled students plan to visit the campus to meet the specially assigned counselors and support personnel, meet and talk with other students, and make other necessary arrangements such as housing. During this interview and visit, the counselors and staff will explain the instructional methods and approaches

adopted by the College and how these methods relate to the disabled student. In addition, student responsibilities and College expectations of the student will be discussed.

### **Assessment and Evaluation**

A screening test and/or interview is administered to those students who demonstrate a learning difficulty. Those who demonstrate a discrepancy among the various learning areas (functions) receive a battery of diagnostic tests to determine the specific learning disability. The results of this evaluation are utilized in designing and implementing the instructional strategies, as well as counseling, tutorial, note-taking, and reader services.

Those students who are not learning disabled but who are unable to complete their studies successfully are referred to other programs which can meet their needs. Such programs may be those of career, academic and personal counseling; study skills training; and tutorial assistance.

### **Architectural and Attitudinal Barriers**

The facilities of CPCC are 98% barrier-free, resulting from the College's long commitment to remove such barriers. The lengthy involvement of the College in providing services to handicapped persons, as well as its experience with such students, has resulted in highly positive attitudes on behalf of the support, instructional and administrative personnel.

### **Braille Services**

Visually impaired students can request the braille of instructional support materials, such as tests and handouts.

### **Counseling Services**

Counseling is the most important service component of the entire program. The counselor is the central point in the student's educational experience and is involved in the personal, social, vocational and academic counseling. The counselor is also the main referral point for other services, assisting the instructor and determining the need for tutorial and other services.

### **Disadvantaged Student**

Those students who are not able to succeed because of educational, economic or social deprivation are able to receive the same services which are available to the exceptional student. Those students who demonstrate learning problems, but are not learning disabled, will be served under this category.

### **DOTTY (Dial Our Tele-Typewriter Yourself)**

DOTTY is an educational and informational community service designed for the hearing impaired. Hearing impaired individuals can call 373-6421 and receive on their home TTY's a short presentation in the areas of consumer, community and College information, as well as short instructional units.

### **Handicapped Parking**

A brochure describing campus parking facilities and regulations is available upon request from the Special Services Department.

### Interpreting Services

The most critical component for any program for the hearing impaired is interpreting service. The success of the student's educational experience is greatly dependent on the availability, quality and flexibility of these services. The College employs a number of highly qualified and certified interpreters. Certain reasonable schedule adjustments may be necessary periodically in order to accommodate all students.

### Reader/Writer Service

CPCC will provide a reader for the visually impaired to read textbooks or tests outside of classes. Those students who

cannot take notes because of hearing impairment, learning disability, physical impairment, or any other condition, may receive assistance from volunteer note-takers.

### Optacon

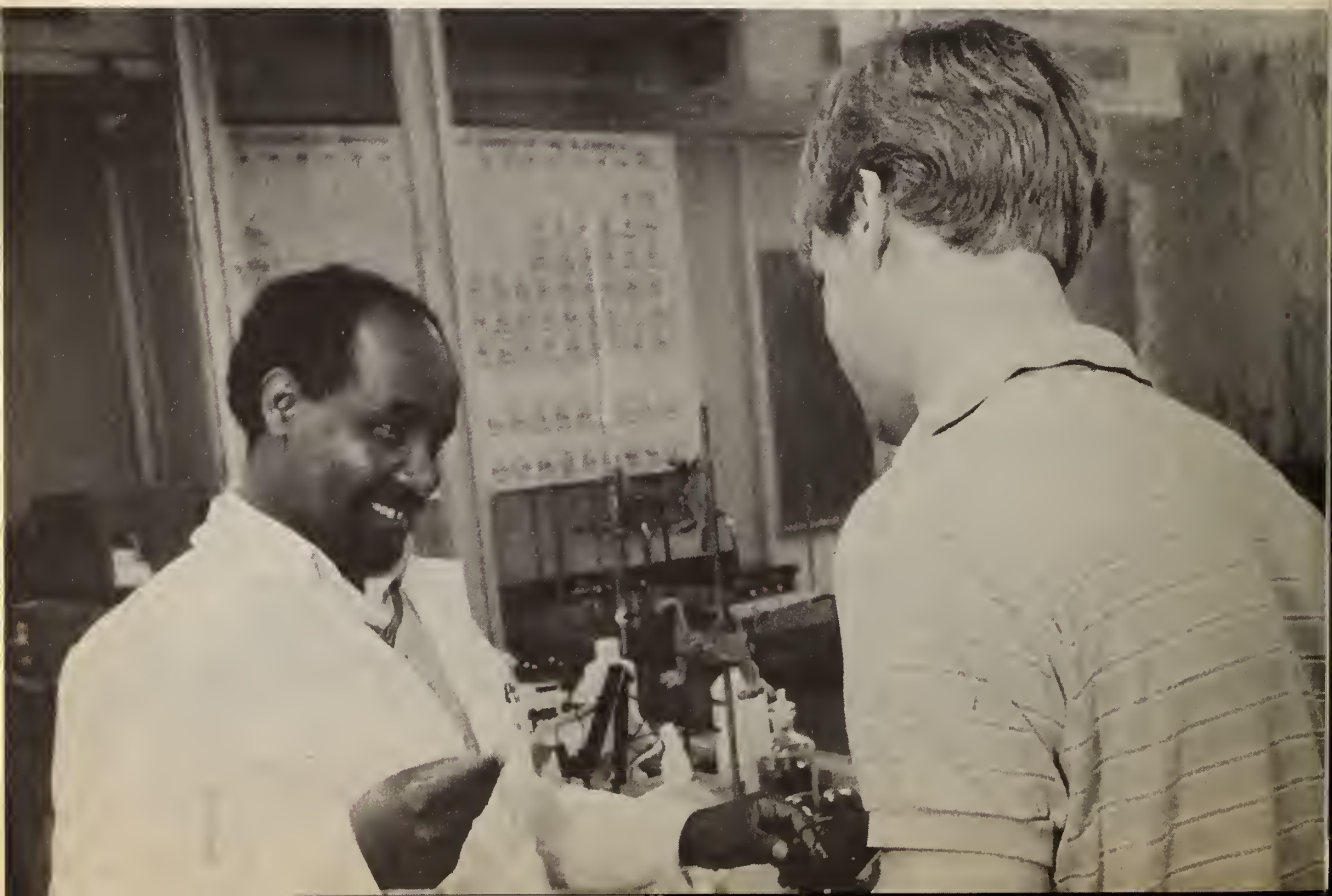
The Optacon (Optical-to-Tactile Converter) is an electronic device by which the visually impaired person can read regular print or a CRT screen. A unit is available at CPCC.

### Tutorial Services

Tutorial services are provided as a supplement to regular class work and not in place of class attendance. Any student receiving tutorial services must attend classes regularly.







# Career Programs

Program titles are listed alphabetically. The letter/numbers following, such as T062, are CPCC codes you will need to list on registration and other forms.

The required courses for each program are listed. Abbreviations are: HRS CLS/WK = hours of class per week; HRS LAB/WK = hours of lab per week; HRS CLC/WK = hours of clinic per week; and HRS CR/QTR = hours of credit per quarter.

\* \* \* \* \*

CPCC offers over 50 career programs. Some are designed to prepare students for entry as technicians in occupational fields. Others are designed to train individuals for jobs in occupations leading to the skilled craftsman level.

## Occupational Fields

These programs train individuals for jobs in such fields as Engineering Technology (Civil, Computer, Electronics, Manufacturing, Mechanical), Dental Hygiene, and Business Administration. The Associate Degree in Applied Science is awarded by the College upon completion of these programs, which require at least six quarters of full-time study. With experience, many individuals are able to move into professional and managerial positions.

Areas of specialization are listed for seven of these programs. For example, in Business Administration, a student has the option of specializing in Banking and Finance, Business Management, Postal Service Management, or Real Estate. Other programs offering specialty options are: Human Services Associate; Industrial Safety, Health, Security and Investigations; Insurance; Marketing and Retailing; Secretarial Science; and Transportation.

## Skilled Craftsman Fields

These programs train individuals for occupations leading to skilled or craftsman levels such as Machinist, Welder, Computer Operator, Auto Mechanic, etc. Certificates (for full-time study of less than one year) and Diplomas (for full-time study of one year) are awarded by the College upon completion. In some cases, courses taken for a Certificate or a Diploma may be applied toward a Degree.

\* \* \* \* \*

For a description of each course, turn to the course descriptions section toward the back of this Catalog. Listings there are arranged alphabetically by three-letter prefixes. Pay particular attention to prerequisites and corequisites.



# Accounting (T016)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Accounting is often called the "language of business." It's the way most companies, whether small private business or large governmental units, communicate financial information and report operating results.

The CPCC accounting program (six quarters) is designed to prepare individuals for entry-level accounting positions in general accounting, auditing, payroll accounting, tax accounting, and other specialized areas such as accounts receivable, accounts payable, and fixed assets. Students learn to maintain journals and ledgers, to prepare financial statements, to make special reports and analyses, to prepare cost data, and to summarize tax information.

The Associate in Applied Science Degree—Accounting will be awarded by the College upon completion of this program.

With experience and/or additional education, individuals should be able to advance to positions such as auditor, accounting manager, EDP auditor, office manager, systems analyst, data processing manager, and cost accountant.

For more information or answers to questions, call the program director, 373-6595, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses: (Students interested in transferring to a senior institution should enroll in the mathematics and communications courses noted in the footnotes.)

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				<b>SECOND QUARTER</b>			
BUS 1400 Introduction to Business	3	2	4	BUS 2304 Business Law I	3	0	3
ACC 1604 Principles of Accounting I	5	2	6	ACC 1605 Principles of Accounting II	5	2	6
COM 1304 Introduction to Communications	3	0	3	\$FIN 3315 Business Mathematics II	3	0	3
\$FIN 3314 Business Mathematics I	<u>3</u>	<u>0</u>	<u>3</u>	†COM 3305 Communications II	3	0	3
			16	‡ Elective	<u>3</u>	<u>0</u>	<u>3</u>
							18
<b>THIRD QUARTER</b>				<b>FOURTH QUARTER</b>			
BUS 2305 Business Law II	3	0	3	ACC 2627 Intermediate Accounting	5	2	6
ACC 2626 Intermediate Accounting I	5	2	6	ACC 4434 Taxes—Individual	3	2	4
ECO 2304 Economics I	3	0	3	FIN 4334 Business Finance II	3	0	3
†COM 3306 Communications III	3	0	3	EDP 2506 Computer Programming I			
FIN 4334 Business Finance I	<u>3</u>	<u>0</u>	<u>3</u>	(Business)	2	2	3
			18	Elective	<u>3</u>	<u>0</u>	<u>3</u>
							19
<b>FIFTH QUARTER</b>				<b>SIXTH QUARTER</b>			
SPH 1300 Oral Communication	3	0	3	ACC 4444 Cost Accounting	3	2	4
ACC 4447 Advanced Accounting	3	2	4	ACC 4404 Auditing	3	2	4
ACC 4425 Taxes—Business and Fiduciary	3	2	4	EDP 4314 Systems and Procedures	3	0	3
EDP 2307 Computer Programming II				BUS 3300 Human Relations in Business	3	0	3
(Business)	2	2	3	EDP 3405 Microcomputer Programming—			
ACC 4414 Microcomputer Accounting	<u>2</u>	<u>4</u>	<u>4</u>	BASIC	<u>3</u>	<u>2</u>	<u>4</u>
			18				18

\$MAT 1504, MAT 1506 or MAT 1514 may be taken if student has met placement test requirements.

†COM 1305 and COM 1306 are recommended for students who may later decide to transfer to a senior institution.

‡SEC 3404 Typing I required as second quarter elective for students who have not had one year of high school typing.

Total Credit Hours . . . . . 107

# Air Conditioning, Heating and Refrigeration

## (V024)

The air conditioning, heating and refrigeration technician installs and services air conditioning, heating and refrigeration systems in residences, industries and commercial establishments.

This program helps students develop an understanding of basic principles involved in the installation and maintenance of climate control equipment. Courses in blueprint reading, welding, math, science and general education are included to help provide supporting skills necessary for the technician to be successful. Students not only learn theory but also spend a large amount of time in well equipped laboratories.

With experience, graduates should be able to service various air conditioning, heating and refrigeration components; trouble-shoot systems; and provide necessary preventive maintenance.

A Diploma in Air Conditioning, Heating and Refrigeration will be awarded by the College upon completion of this program. Graduates may apply for advanced standing in the Air Conditioning, Heating and Refrigeration Technology Program.

For more information or answers to questions, call the program director, 373-6687, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

*NOTE: Students are expected to furnish tools for selected courses.*

*A list of these tools can be obtained from one of the instructors or the program counselor.*

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				<b>SECOND QUARTER</b>			
AHR 5301 Introduction to Automatic Controls	3	0	3	PHY 5304 Shop Science I	2	2	3
AHR 5313 Refrigeration Service Principles	2	3	3	AHR 5314 Automatic Controls	2	3	3
AHR 5401 Basic Calculations for A/C, Heating and Refrigeration Mechanics	4	0	4	AHR 5321 Commercial Refrigeration Installation	2	3	3
AHR 5411 Air Conditioning, Heating and Refrigeration Fundamentals	4	0	4	AHR 5322 Commercial Refrigeration Service	2	3	3
AHR 5412 Shop Practices	2	6	4	AHR 5323 Oil Burners	2	3	3
PHY 5304 Shop Science I	<u>2</u>	<u>2</u>	<u>3</u>	AHR 5333 Liquid Heat—1-Pipe and 2-Pipe Systems	<u>2</u>	<u>3</u>	<u>3</u>
			18				18
<b>THIRD QUARTER</b>				<b>FOURTH QUARTER</b>			
AHR 5200 Solar Domestic Hot Water Installation	1	3	2	AHR 5341 Gas Heat	2	3	3
AHR 5204 Wiring Diagrams and Trouble-Shooting for A/C Systems	1	3	2	AHR 5394 Mechanical Codes	3	0	3
AHR 5324 A/C, Heating and Refrigeration Blueprint Reading	3	0	3	AHR 5443 All Weather Systems—Conventional	3	3	4
AHR 5342 Electric Heat	2	3	3	AHR 5444 All Weather Systems—Heat Pumps	2	6	4
AHR 5431 Air Conditioning—Residential/Commercial	3	3	4	WLD 5210 Basic Oxyacetylene Welding	<u>1</u>	<u>3</u>	<u>2</u>
COM 5500 Communications Skills	<u>5</u>	<u>0</u>	<u>5</u>				16
			19	Total Credit Hours . . . . .			71



# Air Conditioning, Heating and Refrigeration Technology

(T036)

The Air Conditioning, Heating and Refrigeration Technology program includes the AHR courses required in the Diploma program. In addition, courses in drawing and sketching, systems design, air distribution and balance, hydronics, psychometrics, and control systems are also included. Communications and other general studies courses are required. Graduates of this program have a basic background in the installation and service of equipment as well as in the design of various systems.

Graduates of the Air Conditioning, Heating and Refrigeration Diploma program may be admitted to this program with advanced standing.

The Associate in Applied Science Degree—Air Conditioning, Heating and Refrigeration Technology is awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6687, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

*NOTE: Students are expected to furnish tools for related courses.*

*A list of these tools can be obtained from one of the instructors or the program counselor.*

COURSE TITLE					COURSE TITLE				
		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					<b>SECOND QUARTER</b>				
AHR 5301	Introduction to Automatic Controls		3 0	3	PHY 5304	Shop Science I	2	2	3
AHR 5313	Refrigeration Service Principles	2	3	3	AHR 5314	Automatic Controls	2	3	3
AHR 5401	Basic Calculations for A/C, Heating and Refrigeration Mechanics		4 0	4	AHR 5321	Commercial Refrigeration Installation	2	3	3
AHR 5411	A/C, Heating and Refrigeration Fundamentals	4	0	4	AHR 5322	Commercial Refrigeration Service	2	3	3
AHR 5412	Shop Practices	<u>2</u>	<u>6</u>	<u>4</u>	AHR 5323	Oil Burners	2	3	3
				18	AHR 5333	Liquid Heat—1-Pipe and 2-Pipe Systems	<u>2</u>	<u>3</u>	<u>3</u>
<b>THIRD QUARTER</b>					<b>FOURTH QUARTER</b>				
AHR 5200	Solar Domestic Hot Water Installation		1 3	2	AHR 5341	Gas Heat	2	3	3
AHR 5204	Wiring Diagrams and Trouble-Shooting for A/C Systems		1 3	2	AHR 5394	Mechanical Codes	3	0	3
AHR 5324	A/C, Heating and Refrigeration Blueprint Reading	3	0	3	AHR 5443	All Weather Systems—Conventional	3	3	4
AHR 5431	Air Conditioning—Residential Commercial	3	3	4	AHR 5444	All Weather Systems—Heat Pumps	2	6	4
AHR 5342	Electric Heat	2	3	3	COM 3305	Communications II	<u>3</u>	<u>0</u>	<u>3</u>
COM 1304	Introduction to Communications	<u>3</u>	<u>0</u>	<u>3</u>					17
				17	<b>SIXTH QUARTER</b>				
<b>FIFTH QUARTER</b>					AHR 4361	Residential Air Distribution and Balance	2	2	3
AHR 4325	A/C, Heating and Refrigeration Drawing and Sketching		1 4	3	AHR 4462	Commercial Air Distribution and Balance	3	2	4
AHR 4451	Commercial Refrigeration Systems Design	4	0	4	AHR 4463	Control Systems	3	2	4
AHR 4452	Residential A/C Systems Design	3	2	4	ECO 3300	Introduction to Economics	3	0	3
AHR 4453	Commercial A/C Design	3	2	4	‡	Elective—General Education	<u>3</u>	<u>0</u>	<u>3</u>
COM 3305	Communications III	<u>3</u>	<u>0</u>	<u>3</u>					17
				18					

(continued)

## SEVENTH QUARTER

AHR 4325	Introduction to Psychometrics	3	0	3
AHR 4373	Hydronic Systems Balance	2	2	3
AHR 4372	Hydronic Distribution Systems Design	3	0	3
AHR 4471	Installation & Service Problems	2	6	4
†	Elective—AHR			2
‡	Elective—General Education	—	—	3
				18
Total Credit Hours . . . . .		123		

## RECOMMENDED ELECTIVES

## †AHR ELECTIVES:

AHR 4382	Air Conditioning Estimates and Contracts	3	0	3
AHR 4490	Solar Heating and Cooling Systems I	4	0	4
AHR 4491	Solar Heating and Cooling Systems II	4	0	4
AHR 5594	Duct Design I—Rectangular Duct	3	6	5
AHR 5495	Duct Design I—Round Duct	3	3	4
MAC 5201	Machine Shop Practices	1	3	2
WLD 5220	Basic Electric Arc Welding	1	3	2
WLD 5250	Basic Gas Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2

## ‡GENERAL EDUCATION ELECTIVES:

SPH 1300	Oral Communications	3	0	3
SPH 2304	Public Speaking	3	0	3
PSY 2504	General Psychology	5	0	5
SOC 1301	Group Interaction	3	0	3

## Architectural Technology (T041)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Architectural Technology involves the planning, drafting and design, supervision, and construction of buildings and sites. Architectural technicians perform many of the planning and supervisory tasks necessary to communicate the architect's design to the contractor.

The Architectural Technology program is comprehensive, providing classroom and laboratory experiences in the practical application of both fundamental and specialized architectural technology principles.

Courses in architectural drafting and architectural and civil engineering technology, complemented by courses in mathematics, physics, communication and computer programming, give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized architectural technology courses that furnish concentrated study in the practical application of modern technological knowledge and skills needed in today's building construction industry. The program is designed to produce architectural technicians with sound knowledge and skills in architectural drafting, mechanical/electrical/plumbing drafting, structural drafting, architectural working drawings, blueprint reading and specifications, construction materials and methods, architectural/mechanical equipment, codes and contracts, steel and timber design, reinforced concrete design, construction estimates, and Computer-Aided-Design (CAD).

The building construction industry is large and varied, and provides excellent opportunity for individuals with ability and training. Architectural technicians must be well informed about the building industry, the operation of architect's office, building codes, methods and materials of construction, and contract documents. Graduates from this program may work with registered architects, engineers, construction supervisors, and other qualified technicians in preparation of complete and accurate working drawings, details, and specifications, and many other facets of architectural practices.

Typical employment positions available to graduates of this program include: architectural drafter, estimator, project coordinator, planner field inspector, and salesperson. Upon gaining sufficient experience, graduates may advance to positions such as job captain or project manager. Initial employment possibilities exist with architectural and engineering firms, private utilities, contractors, and municipal governments. Graduates may also continue study for two or more years at a senior institution offering Bachelor of Engineering Technology (BET) programs.

(continued)



An Associate of Applied Science (A.A.S.) Degree—Architectural Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6548, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
ARC 3334	Architectural Drafting I: Basic and Residential	1	6	3
CIV 3504	Surveying I	3	6	5
MAT 3507	Engineering Technology Math I	5	0	5
COM 1304	Introd. to Communications	<u>3</u>	<u>0</u>	<u>3</u>
				16

### THIRD QUARTER

ARC 3336	Architectural Drafting III: Commercial A	1	6	3
CIV 3514	Statics	3	6	5
CIV 3306	Construction Materials and Methods	2	3	3
MAT 3509	Engineering Technology Math III	5	0	5
COM 3305	Communications II	<u>3</u>	<u>0</u>	<u>3</u>
				19

### FIFTH QUARTER

ARC 4338	Architectural Drafting V: Mechanical, Electrical, Plumbing	1	6	3
CIV 4427	Steel and Timber Design	3	3	4
CIV 4302	Plain Concrete	1	6	3
PHY 1406	Physics II: Elastic and Thermal Properties of Matter	3	2	4
SPH 1300	Oral Communications	<u>3</u>	<u>0</u>	<u>3</u>
				17

### SEVENTH QUARTER

ARC 4440	Architectural Drafting VII: Working Drawings	1	9	4
CIV 4305	Construction Estimates	2	3	3
PHY 1406	Physics III: Electricity and Magnetism	3	2	4
* Technical Elective				2
† General Education Elective		<u>3</u>	<u>0</u>	<u>3</u>
				16

† General Education Electives must be chosen from the areas of communications, social science and/or humanities.

*Architectural Technology is an ABET accredited program at CPCC.*

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
ARC 3335	Architectural Drafting II: Site Planning and Commercial	1	6	3
MAT 3508	Engineering Technology Math II	5	0	5
PHY 1404	Physics I: Basic Mechanics	3	2	4
ARC 4200	Architectural Blueprint Reading and Specifications	1	3	2
EDP 3405	Microcomputer Programming: Basic	<u>3</u>	<u>2</u>	<u>4</u>
				18

### FOURTH QUARTER

ARC 4337	Architectural Drawing IV: Commercial B	1	6	3
CIV 3524	Strength of Materials	3	6	5
ARC 4300	Architectural Mechanical Equipment	2	3	3
CIV 4300	Codes and Contracts	2	3	3
COM 3306	Communications III	<u>3</u>	<u>0</u>	<u>3</u>
				17

### SIXTH QUARTER

ARC 4339	Architectural Drawing VI: Structural	1	6	3
CIV 4434	Reinforced Concrete Design	3	3	4
* Technical Elective				3
† General Education Elective		<u>3</u>	<u>0</u>	<u>3</u>
				13

Total Hours Credit..... 116

### \*SUGGESTED TECHNICAL ELECTIVES

ARC 3307	Computer-Aided-Drafting (CAD): Architectural
ARC 3312	Residential Working Drawings
ARC 4310	Energy Efficient and Solar Home Design
ARC 4345	Architectural Presentation Drawing I
ARC 3301	Build Your Home
ARC 3302	Home Construction Methods and Details
ARC 3200	Introduction to Architecture
ARC 3210	Design Your House Plans
ARC 4302	Architectural Model Construction
CIV 4227	Microcomputer Application Project
CIV 4220	Principles of Hydraulics

# Automotive Body Repair (V001)

In the Automotive Body Repair program, students study the construction of the automobile body and techniques of auto body repairing, rebuilding and refinishing.

Straightening, aligning, metal finishing, and painting of automobile bodies and frames are typical jobs performed. Job titles include Automobile Body Repairer, Automotive Painter, and Frame and Chassis Repairer. Individuals completing this program may find employment with franchised automobile dealers and independent garages where some become shop supervisors or managers.

This program provides the opportunity for students to develop skills in order to be readily employable. Practical training is as similar to actual on-the-job work experience as possible. CPCC's large shop and excellent equipment are ideal in preparation for entry into this occupational field. A Diploma in Automotive Body Repair will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6850, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

*NOTE: Students must furnish required hand tools, textbooks, respirator, and protective clothing. A list of these items can be obtained from one of the instructors or the program counselor.*

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>			
AUB 5100 Seminar I	1	0	1
AUB 5223 Fiberglass and Metallic Fillers	1	3	2
AUB 5224 Panel Installation	1	3	2
AUB 5421 Metal Finish and Plastic Fillers	2	6	4
AUT 5403 Basic Calculations for Auto, Diesel and Power Mechanics	4	0	4
WLD 5210 Basic Oxyacetylene Welding	1	3	2
WLD 5220 Basic Arc Welding	<u>1</u>	<u>3</u>	<u>2</u>
			17
<b>THIRD QUARTER</b>			
AUB 5102 Seminar III	1	0	1
AUB 5201 Trim and Glass	1	3	2
AUB 5214 Door and Fender Alignment	1	3	2
AUB 5412 Frame and Unitized Body Alignment	2	6	4
AUT 5404 Auto Chassis and Suspension Systems	2	6	4
COM 5500 Communication Skills	5	0	5
WLD 5250 Basic Gas Metal Arc Welding	<u>1</u>	<u>3</u>	<u>2</u>
			20

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>			
AUB 5101 Seminar II	1	0	1
AUB 5233 Lacquer Painting	1	3	2
AUB 5234 Enamel Painting	1	3	2
AUB 5235 Special Finishes	1	3	2
AUB 5431 Paint Equipment and Preparation	2	6	4
AUT 5254 Auto Heating and Air Conditioning	1	3	2
MGT 5200 Shop Management	2	0	2
HSA 5200 Human Relations	<u>2</u>	<u>0</u>	<u>2</u>
			17
<b>FOURTH QUARTER</b>			
AUB 5202 Auto Renewal	1	3	2
AUB 5203 Estimating Auto Body Damage	2	0	2
AUB 5344 Body Shop Applications I	0	9	3
AUB 5345 Body Shop Applications II	0	9	3
AUB 5346 Body Shop Applications III Elective	0	9	3
	—	—	<u>2</u>
			15
Total Credit Hours .....			69

## RECOMMENDED ELECTIVES:

ART 1317 Furniture Restoration I	0	6	3
AUB 5347 Body Shop Applications IV	0	9	3
BUS 1400 Introduction to Business	3	2	4
DSL 5300 Diesel Fundamentals	2	3	3
MAC 5201 Machine Shop Practices	1	3	2
MGT 3303 Small Business Management	3	0	3
PME 5211 Small Engine Repair I	1	3	2
RDN 9510 Reading Improvement	5	0	5



# Automotive Mechanics [Diploma] (V003)

# Automotive Technology [Degree] (T156)

The Automotive Mechanics and Automotive Technology program is designed to meet the need for highly trained technicians to service and repair the complex automobiles and light trucks that are now being produced. In addition to the fundamentals of the engine, power train components, electrical, fuel, and chassis suspension systems, emphasis is placed on the operation and servicing of electronic controlled systems and emission controls.

The Associate in Applied Science Degree—Automotive Technology will be awarded by the College upon completion of this program. Upon completion of the Fourth Quarter, students exiting the program will receive a Diploma in Automotive Mechanics.

For more information or answers to questions, call the program director, 373-6858, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

*NOTE: Students must furnish required hand tools and protective clothing, as well as textbooks. A list of these items can be obtained from one of the instructors or the program counselor.*

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER (Any Quarter)</b>				
AUT 5401	Internal Combustion Engines I	2	6	4
AUT 5405	Automotive Fuel Systems	2	6	4
AUT 5415	Electrical Systems I	2	6	4
AUT 5403	Basic Calculations for Auto, Diesel Mechanics	4	0	4
PHY 5304	Shop Science I	<u>2</u>	<u>2</u>	<u>3</u>
		19		

<b>THIRD QUARTER (Any Quarter)</b>				
AUT 5404	Auto Chassis and Suspension Systems	2	6	4
AUT 5426	Auto Power Train Systems II	2	6	4
†AUT 5307	Auto Electrical and Fuel Systems Applications	1	6	3
WLD 5210	Basic Oxyacetylene Welding	1	3	2
MAC 5201	Machine Shop Practices	1	3	2
‡	Elective—Technical	—	—	<u>2</u>
		17		

†AUT 5295 Automotive Co-Op may be substituted for Application Classes with approval of the program director.

*NOTE: Students may exit upon completion of the 4th*

<b>FIFTH QUARTER (Fall Quarter only)</b>				
AUT 4300	Automotive Emission Systems	2	2	3
AUT 4401	Automotive Electronics	3	2	4
DSL 4400	Automotive Diesel Engines	2	6	4
COM 3305	Communications II	3	0	3
	Elective—General Education	—	—	<u>3</u>
		17		

<b>SEVENTH QUARTER (Spring Quarter only)</b>				
MGT 3303	Small Business Management	3	0	3
AUT 4308	Auto Servicing	1	6	3
WLD 5220	Basic Arc Welding	1	3	2
	Elective—General Education	—	—	<u>3</u>
	Elective—General Education	—	—	<u>3</u>
		14		

Total Credit Hours ..... 113

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER (Any Quarter)</b>				
AUT 5402	Internal Combust. Engines II	2	6	4
AUT 5416	Electrical Systems II	2	6	4
AUT 5425	Auto Power Train Systems I	2	6	4
AUT 5254	Auto Heating and Air Conditioning	1	3	2
PHY 5305	Shop Science II	<u>2</u>	<u>2</u>	<u>3</u>
		17		

<b>FOURTH QUARTER (Any Quarter)</b>				
†AUT 5308	Auto Chassis and Suspension Applications	1	6	3
AUT 5427	Auto Power Train Systems III	2	6	4
DSL 5300	Diesel Fundamentals	2	3	3
<b>Diploma Applicants:</b>				
COM 5500	Communications Skills	5	0	5
<b>Degree Applicants:</b>				
COM 1304	Introd. to Communication	3	0	3
‡	Elective—Technical	—	—	<u>2</u>
		15		

Total Credit Hours ..... 68

*quarter and receive a Diploma in Auto Mechanics.*

<b>SIXTH QUARTER (Winter Quarter only)</b>				
AUT 4402	Auto Instrumentation and Chassis Electrical Systems	3	2	4
AUT 4406	Computer Controlled Fuel Systems	3	2	4
COM 3306	Communications III	3	0	3
FIN 3314	Business Mathematics I	<u>3</u>	<u>0</u>	<u>3</u>
		14		

<b>TECHNICAL ELECTIVES:</b>				
DSL 5304	Hydraulics and Pneumatics			
HED 1204	First Aid I			
PME 5211	Small Engine Repair I			
PME 5214	Small Engine Overhaul			
WLD 5250	Basic Gas Metal Arc Welding			

# Bookkeeping/Clerical (T150)

The purposes of this program are to prepare individuals for work requiring bookkeeping and clerical skills, to provide an educational program for students wanting training for work in small businesses, and to help those interested in upgrading or retraining.

Students will take courses in areas such as maintaining journals and ledgers, preparing financial statements, preparing and submitting tax forms, preparing cost data, typing, managing records, and operating basic office machines. Thus, students will be able to enter business and industry as bookkeepers, general accountants, credit card clerks, night auditors, office managers, accounting clerks, general ledger bookkeepers, or similar positions.

The Associate in Applied Science Degree—Bookkeeping/Clerical will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6595, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>			
SEC 3404 Typing I	3	2	4
ACC 1604 Principles of Accounting I	5	2	6
COM 1304 Introduction to Communications	3	0	3
*FIN 3314 Business Mathematics I	<u>3</u>	<u>0</u>	<u>3</u>
			16
<b>THIRD QUARTER</b>			
SEC 3406 Typing III	3	2	4
ACC 2626 Intermediate Accounting I	5	2	6
SEC 4370 Records Management	3	0	3
†COM 3306 Communications III	3	0	3
SEC 3304 Office Machines	<u>2</u>	<u>2</u>	<u>3</u>
			19
<b>FIFTH QUARTER</b>			
ACC 3500 Small Business Accounting	5	0	5
BUS 2304 Business Law I	3	0	3
FIN 4334 Business Finance I	3	0	3
EDP 3405 Microcomputer Programming: BASIC	3	2	4
ECO 2304 Economics I	<u>3</u>	<u>0</u>	<u>3</u>
			18

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>			
SEC 3405 Typing II	3	2	4
ACC 1606 Principles of Accounting II	5	2	6
†COM 3505 Communications II	3	0	3
*FIN 3315 Business Mathematics II	<u>3</u>	<u>0</u>	<u>3</u>
			16
<b>FOURTH QUARTER</b>			
ACC 2627 Intermediate Accounting II	5	2	6
ACC 4425 Taxes—Business and Fiduciary	3	2	4
SEC 4407 Typing IV	3	2	4
BUS 3300 Human Relations in Business	<u>3</u>	<u>0</u>	<u>3</u>
			17
<b>SIXTH QUARTER</b>			
ACC 4414 Microcomputer Accounting	2	4	4
BUS 2305 Business Law II	3	0	3
FIN 4335 Business Finance II	3	0	3
SPH 1300 Oral Communications	3	0	3
Electives	<u>6</u>	<u>0</u>	<u>6</u>
			19
Total Credit Hours .....			105

\*MAT 1504, MAT 1505 or MAT 1514 may be taken if student has met placement test requirements.

†COM 1305 and COM 1306 are recommended for students who may later decide to transfer to a senior institution.





# Business Administration (T018)

## Banking and Finance Business Management Postal Service Management Real Estate

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to a senior institution.*

Opportunities for employment and advancement in business and industry are increasing. Charlotte is a major distribution and finance center offering good career opportunities in the areas of transportation, wholesaling, retailing and banking, with opportunities to progress into management and decision-making activities. There are career opportunities in textiles, food products, printing and publishing, machinery, and chemicals, to name a few. Middle-management positions include purchasing, sales and distribution, public relations, personnel, transportation, communications, and utilities.

Greater success will come to those who have an understanding of our economic and business environment and who have developed both technical and human skills. This program provides an overview of the business and industrial world—its organization and management, modern decision-making techniques, economics, production and marketing, oral and written communication, and interpersonal relationships.

The areas of specialization within this program offer opportunities for development in specific functions of business.

Other Associate in Applied Science degrees are offered through the Business Administration Division: Marketing and Retailing, Transportation, Food Preparation, and Hotel/Restaurant Management. See separate listings for course requirements and descriptions of these programs.

For more information or answers to questions, call the program director, 373-6646, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

To receive the Associate in Applied Science Degree—Business Administration, students must complete the General Course Requirements (49 credit hours), and select and complete courses in a field of specialization: Banking and Finance, Business Management, Postal Service Management, or Real Estate.

### General Course Requirements:

COURSE TITLE	HRS			COURSE TITLE	HRS		
	CLS	LAB	CR/ /WK /WK QTR		CLS	LAB	CR/ /WK /WK QTR
*COM 1304 Introd. to Communications	3	0	3	*ACC 1605 Principles of Accounting II	5	2	6
*COM 3305 Communications II	3	0	3	BUS 1400 Introduction to Business	3	2	4
*COM 3306 Communications III	3	0	3	†BUS 2304 Business Law I	3	0	3
SPH 1300 Oral Communications	3	0	3	†BUS 2305 Business Law II	3	0	3
†ECO 2304 Economics I (Macro)	3	0	3	BUS 3300 Human Relations in Business	3	0	3
*†ECO 2305 Economics II (Micro)	3	0	3	‡FIN 3314 Business Mathematics I	3	0	3
ACC 1604 Principles of Accounting I	5	2	6	*MGT 2314 Principles of Management	3	0	3

49

\*Prerequisite required.

†Except Postal Service Management area of specialization.

‡MAT 1504, MAT 1505 or MAT 1514, MAT 1515 may be taken if student has met requirements.

### Banking and Finance

To earn a degree in Business Administration—Banking and Finance, students should complete 109 credit hours as follows: 49 credit hours of General Course Requirements, 19 credit hours Banking and Finance Course Requirements, 38 credit hours of Banking and Finance (BAF) General Course Requirements, and 3 credit hours of electives. Students may obtain a course sequence list from the program counselor or department.

(continued)

**Banking and Finance Course Requirements:**

COURSE TITLE	HRS			COURSE TITLE	HRS		
	CLS	LAB	CR/ /WK		CLS	LAB	CR/ /WK
*FIN 3315 Business Mathematics II	3	0	3	MGT 4330 Supervision	3	0	3
*FIN 4336 Financial Management	3	0	3	EDP 3300 Introduction to Computer Concepts	3	0	3
*FIN 4400 Analyzing Financial Statements — AIB	4	0	4	*EDP 4314 Systems and Procedures	3	0	3



## Postal Service Management

To earn a degree in Business Administration—Postal Service Management, students should complete 108 credit hours as follows: 37 credit hours of General Course Requirements, 64 credit hours of Postal Service Management Course Requirements, and 7 credit hours of electives. Students may obtain a course sequence list from the program counselor or department.

### Postal Service Management Course Requirements:

COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ECO	3300	Introduction to Economics		3	0	3	PSM	4401	Postal Service Support		3	2	4
ECO	3302	Labor Economics		3	0	3	PSM	4421	Postal Customer Services		3	2	4
PSM	3300	Postal Service History and Organization		3	0	3	PSM	4430	Postal Delivery and Collection		3	2	4
RDN	9510	Reading Improvement		5	0	5	MGT	4330	Supervision		3	0	3
PSM	3401	Postal Service Labor Management		3	2	4	SOC	1301	Group Interaction		3	0	3
HED	1204	First Aid I		1	2	2	EDP	3300	Introduction to Computer Concepts		3	0	3
PSM	4420	Postal Employee Services		3	2	4	PSM	4431	Postal Problems Analysis		3	2	4
PSM	3404	Mail Processing I		3	2	4	SOC	4300	Social and Minority Issues		3	0	3
PSM	3405	Mail Processing II		3	2	4	ACC	4434	Income Taxes Individual Electives		3	2	4
											<u>4</u>	<u>0</u>	<u>4</u>
													71

## Real Estate

To earn a degree in Business Administration—Real Estate, students should complete 109 credit hours as follows: 49 credit hours of General Course Requirements and 60 credit hours of Real Estate Course Requirements, and 6 credit hours of electives. Students may obtain a course sequence list from the program counselor or department.

### Real Estate Course Requirements:

COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*BUS	2306	Business Law III		3	0	3	*RES	4361	Real Estate Law (Broker Prelicensing)		3	0	3
*BUS	3304	Business Statistics		3	0	3	*RES	4362	Real Estate Finance (Broker Prelicensing)		3	0	3
EDP	5300	Microcomputer Operations		2	2	3	*RES	4363	Real Estate Brokerage Operations (Broker Prelicensing)		3	0	3
*FIN	3315	Business Mathematics II		3	0	3	*RES	4364	Land Use Planning and Zoning		3	0	3
MGT	3303	Small Business Management		3	0	3	*RES	4365	Real Estate Marketing		3	0	3
*RES	3360	Real Estate Property Management		3	0	3	*RES	4367	Income Real Estate Appraisal I		3	0	3
*RES	3364	Residential Real Estate Appraisal I		3	0	3	*RES	4374	Real Estate Investment		3	0	3
*RES	3365	Residential Real Estate Appraisal II		3	0	3	*RES	4375	Commercial and Industrial Real Estate		3	0	3
*RES	3660	Fundamentals of Real Estate (Salesman Prelicensing)		6	0	6			Electives		—	—	6
													60

\*Prerequisite required.



# Civil Engineering Technology (T038)

*Students should consult with a faculty adviser or counselor regarding transferrability of this program to senior institutions.*

Civil Engineering Technology involves the planning, supervision and construction of permanent structures and public works. Its major functions consist of the preparation of surveys; design and structures (buildings, structural systems, bridges, dams, power plants, etc.); the planning of municipal systems (water, gas, sanitary, flood control, etc.); and the development of transportation facilities (highways, airways, etc.). Civil Engineering Technicians perform many of the planning and supervisory tasks necessary in this vast construction industry.

The Civil Engineering Technology program is a comprehensive program providing classroom and laboratory experiences in the practical application of both fundamental and specialized civil engineering technology principles. Courses in drafting, architectural technology and civil engineering technology, complemented by courses in mathematics, physics, computer programming and communications give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized civil engineering technology courses that furnish concentrated study in the practical application of modern technological knowledge and skills needed in today's construction industry.

This program is designed to produce civil engineering technicians with sound knowledge and skills in building structural specifications, blueprint reading, drafting, site planning, construction materials and methods, codes and contracts, steel and timber design, reinforced concrete design, plain concrete, construction estimates, foundation construction, construction of roads and pavements, construction planning, and Computer-Aided-Design (CAD).

The construction industry is large and varied and provides excellent opportunities for individuals with ability and training.

Graduates from this program may work with engineers, architects and skilled craftspersons in capacities such as instrument person, survey party chief, layout person, drafter, supervisor, expeditor, engineering aide, inspector, materials tester, construction equipment and materials salesperson. Upon gaining sufficient construction experience, graduates have the opportunity to advance to such positions as surveyor, field supervisor, chief inspector, estimator, job superintendent, project manager, or contractor. Initial employment possibilities exist with architectural and engineering firms, surveying firms, contractors, materials testing firms, and municipal engineering and transportation departments. Graduates may also continue study for two or more years at a senior institution offering Bachelor of Engineering Technology (BET) programs.

The Associate in Applied Science Degree—Civil Engineering Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, (704) 373-6548, or the Technology Division head, 373-6557, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>							<b>SECOND QUARTER</b>						
CIV	3504	Surveying I		3	6	5	ARC	4200	Architectural Blueprint Reading and Specifications		1	3	2
ARC	3334	Architectural Drafting I: Basic Residential		1	6	3	ARC	3335	Architectural Drafting II: Site Planning and Commercial		1	6	3
MAT	3507	Engineering Technology Math I		5	0	5	MAT	3508	Engineering Technology Math II		5	0	5
COM	1304	Introduction to Communications		3	0	3	PHY	1404	Physics I: Basic Mechanics		3	2	4
						16	EDP	3405	Microcomputer Programming: BASIC		3	2	4
													18
<b>THIRD QUARTER</b>							<b>FOURTH QUARTER</b>						
CIV	3306	Construction Materials and Methods		2	3	3	CIV	4405	Surveying II		2	6	4
CIV	3514	Statics		3	6	5	CIV	3524	Strength of Materials		3	6	5
MAT	3509	Engineering Technology Math III		5	0	5	ARC	4300	Architectural Mechanical Equipment		2	3	3
COM	3305	Communications II		3	0	3	CIV	4300	Codes and Contracts		2	3	3
						16	COM	3306	Communications III		3	0	3
													18

(continued)



**FIFTH QUARTER**

CIV 4406	Surveying III	2	6	4
CIV 4427	Steel and Timber Design	3	3	4
CIV 4302	Plain Concrete	1	6	3
PHY 1405	Physics II: Elastic and Thermal Properties of Matter	3	2	4
SPH 1300	Oral Communications	<u>3</u>	<u>0</u>	<u>3</u>
				18

**SEVENTH QUARTER**

CIV 4305	Construction Estimates	2	3	3
CIV 4424	Foundation Construction	3	3	4
CIV 4344	Construction of Roads and Pavements	3	2	4
†	Technical Elective			2
‡	General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
				15

Total Hours Credit ..... 119

†General Education Electives must be chosen from the areas of communication, social science and/or humanities.

*Civil Engineering Technology is an ABET Accredited Program at CPCC.*

**SIXTH QUARTER**

CIV 4204	Construction Planning (CPM)	1	3	2
CIV 4434	Reinforced Concrete Design	3	3	4
ARC 4339	Architectural Drafting VI: Structural	1	6	3
PHY 1406	Physics III: Electricity and Magnetism	3	2	4
†	Technical Elective			2
‡	General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
				18

**†SUGGESTED TECHNICAL ELECTIVES**

ARC 3307	Computer-Aided Drafting (CAD)—Architectural
ARC 4310	Energy Efficient and Solar Home Design
ARC 3301	Build Your Home
ARC 3302	Home Construction Methods and Details
CIV 4220	Principles of Hydraulics
CIV 4227	Microcomputer Application Project

## Commercial Art Advertising Design (T070)

The commercial art advertising design field is highly competitive and challenging for the artist who wants to combine business and creative activities..

CPCC's Commercial Art Advertising Design program prepares students for a career in communication arts, traditionally known as "Commercial Art."

The skills of the artist, both visual and technical, are directed toward the production of effective advertising, design, and promotional pieces. Advertising agencies, art studios, newspapers, printers, and large corporations and businesses require the services of these artists,

Students in the Commercial Art Advertising Design program study advertising, illustration, layout, typography, design, photography, graphic communication, and production.

Commercial artists and advertising designers create and design layouts and artwork for print and audiovisual media. They may design and prepare letterheads, brochures, illustrations, and art for publication; produce package design; and prepare lettering, type and art for print and audiovisual media.

The Associate in Applied Science Degree—Commercial Art Advertising Design will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
ART 1300	Introduction to Art I	3	0	3
ART 1404	General Drawing I	2	4	4
ART 1424	Design I	2	4	4
ART 4201	Commercial Art Orientation I	2	0	2
COM 1304	Introduction to Communications	<u>3</u>	<u>0</u>	<u>3</u>
				16

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
ART 1301	Introduction to Art II	3	0	3
ART 1405	General Drawing II	2	4	4
ART 1425	Design II	2	4	4
DFT 3300	Advertising Drafting	2	2	3
COM 3305	Communications II	<u>3</u>	<u>0</u>	<u>3</u>
				17

(continued)

**THIRD QUARTER**

ART 1384 Basic Camera Techniques	3	0	3
ART 1406 General Drawing III	2	4	4
ADV 4454 Typography and Lettering I	2	4	4
FIN 3314 Business Mathematics I	3	0	3
ART 1426 Design III	<u>2</u>	<u>4</u>	<u>4</u>
			18

**FIFTH QUARTER**

ADV 4425 Advertising Studio II	2	4	4
ADV 4415 Advertising Production II	2	4	4
COM 4324 Copywriting I	3	0	3
ADV 3401 Illustration I	2	4	4
ADV 1300 Photography for Advertising	<u>1</u>	<u>4</u>	<u>3</u>
			18

**SEVENTH QUARTER**

ADV 4436 Advertising Thesis	2	4	4
PRN 5364 Fundamentals of Offset Printing	1	4	3
ADV 4427 Advertising Studio IV	2	4	4
ADV 4417 Advertising Production IV	2	4	4
ADV 3414 Computer Assisted Design	<u>2</u>	<u>2</u>	<u>3</u>
			18

Total Credit Hours ..... 124

**FOURTH QUARTER**

ADV 4455 Typography and Lettering II	2	4	4
ADV 4424 Advertising Studio I	2	4	4
ADV 4414 Advertising Production I	2	4	4
ART 1385 Photo Lab Processes I	1	4	3
MKT 4321 Advertising	<u>3</u>	<u>0</u>	<u>3</u>
			18

**SIXTH QUARTER**

ADV 4426 Advertising Studio III	2	4	4
ADV 4416 Advertising Production III	2	4	4
COM 4325 Copywriting II	3	0	3
ADV 3404 Illustration II	2	4	4
BUS 1400 Introduction to Business	<u>3</u>	<u>2</u>	<u>4</u>
			19

## Commercial Art Interior Design (T077)

Increasingly our interior living and work spaces are being developed for a more sophisticated society. The Commercial Art Interior Design program at CPCC trains people to design the interiors of today and tomorrow.

This program prepares students for a variety of job opportunities in the field of design. The course of study includes historical styles, as well as currently manufactured products, and the coordination of color, furniture, floor coverings, fabrics, wallpapers, drapery, paneling, hardware, paints, and accessories. Students have the opportunity to consider the elements of interior design and to demonstrate their abilities in interior coordination. Courses also are included in sales development and other related areas.

The Associate in Applied Science Degree—Commercial Art Interior Design will be awarded by the College upon completion of this program.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER							SECOND QUARTER						
ART	1300	Introduction to Art I		3	0	3	ART	1301	Introduction to Art II		3	0	3
ART	1404	General Drawing I		2	4	4	ART	1405	General Drawing II		2	4	4
ART	1424	Design I		2	4	4	ART	1425	Design II		2	4	4
ART	4201	Commercial Art Orientation I		2	0	2	ART	1384	Basic Camera Techniques		3	0	3
FIN	3314	Business Mathematics I		3	0	3	ARC	3334	Architectural Drafting I (Basic)		1	6	3
COM	1304	Introd. to Communications		<u>3</u>	<u>0</u>	<u>3</u>	COM	3305	Communications II		<u>3</u>	<u>0</u>	<u>3</u>

(continued)



## FIFTH QUARTER

ARC 3200	Introduction to Architecture	2	0	2
†ART 1311	History of Art II	3	0	3
EDN4415	Applied Problems Studio II	2	4	4
EDN4307	Survey of Materials	1	4	3
EDN4203	Period Furniture and Furnishings	2	0	2
		10	8	14

†For specific electives, contact program director and/or division head.

‡ART 1312 History of Art III may be substituted without division head approval.

## SIXTH QUARTER

EDN 4406	Contemporary Interiors	2	4	4
EDN 4400	Professional Practices and Procedures	2	4	4
EDN 4416	Applied Problems Studio III	2	4	4
EDN 4202	Thesis	0	4	2
	General Elective	3	0	3
		9	16	17

Total Credit Hours ..... 106

## Computer Engineering Technology (T040)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Computer Engineering Technology involves the practical hardware and software application of both computer and electronic fundamentals in the design, interfacing, testing and maintenance of mini- and micro-computers. The computer engineering technician is concerned with software, analog and digital circuitry, computer circuits, microprocessors, mini- and micro-computers and their practical application in today's high technology automated industry.

The Computer Engineering Technology program prepares students with skills and knowledge in both the hardware and software aspects of computers and related systems. It provides a comprehensive background in the practical application of both computer and electronic circuits from the component to the system level. Courses are designed to present technical content in an order that provides students with progressive levels of job-related skills and knowledge. From fundamental programming and electrical circuits, students advance to specialized courses in computer circuits, microprocessors, microcomputer system design, software development, and computer maintenance. The emphasis of the program includes software and hardware development, and implementation of mini- and micro-computer system applications such as instrumentation, process monitoring, automation and robotics.

With today's expanding high technology automated business and industry, the use of the computer has seen record growth. Along with this computer explosion is the need for highly skilled technicians with expertise in computer hardware, software, maintenance and applications. Graduates from this program are qualified for employment as engineering technicians with companies that utilize computers in computation and control activities, as well as firms that design, manufacture, market, install and service computers. Graduates may also continue study for two or more years at a senior institution offering Bachelor of Engineering Technology (BET) programs.

The Computer/Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours in order that students may devote as much time as possible to laboratory assignments. The modern facility includes adequate equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics and robotics.

The Associate in Applied Science Degree—Computer Engineering Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program counselor, (704) 373-6881, or the Computer Engineering program director/Technology Division, 373-6557, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: Call the CPCC Information/Admissions Center, 373-6687.*

(continued)

## Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
ELN 3104	Computer Technology Seminar	1	0	1
ELN 3514	Basic Electricity (DC)	3	6	5
EDP 3405	Microcomputer Programming— BASIC	3	2	4
MAT 3507	Engineering Technology Math I	5	0	5
COM 1304	Introduction to Communication	<u>3</u>	<u>0</u>	<u>3</u>
				18
<b>THIRD QUARTER</b>				
ELN 3404	Electronics I: Active Devices	3	3	4
ELN 4444	Network Analysis	3	3	4
MAT 3509	Engineering Technology Math III	5	0	5
COM 3306	Communications III	<u>3</u>	<u>0</u>	<u>3</u>
				16
<b>FIFTH QUARTER</b>				
ELN 3406	Electronics III: Op-Amps	3	3	4
ELN 4418	Computer Circuits II	3	3	4
ELN 4547	Microprocessors I	3	6	5
PHY 1405	Physics II: Matter	<u>3</u>	<u>2</u>	<u>4</u>
				17
<b>SEVENTH QUARTER</b>				
ELN 4100	Senior Seminar	1	0	1
ELN 4416	Computer Maintenance I	2	6	4
ELN 4567	Microcomputer System Design	3	6	5
ELN ‡	Technical Elective	3	3	4
†	General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
				17

Total Credit Hours ..... 121

‡General Education Electives must come from the areas of communications, social science and/or humanities.

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
ELN 3105	Introduction to Computer Engineering Technology	1	0	1
ELN 3515	Basic Electricity (AC)	3	6	5
DFT 3400	Electrical/Electronics Drafting	2	6	4
MAT 3508	Engineering Technology Math II	5	0	5
COM 3305	Communications II	<u>3</u>	<u>0</u>	<u>3</u>
				18
<b>FOURTH QUARTER</b>				
ELN 3405	Electronics II: Analog Circuits	3	3	4
ELN 4417	Computer Circuits I	3	3	4
ELN 4525	Electrical Machines I	3	6	5
PHY 1404	Physics I: Basic Mechanics	<u>3</u>	<u>2</u>	<u>4</u>
				17
<b>SIXTH QUARTER</b>				
ELN 4327	Microcomputer Applications Project	1	6	3
ELN 4557	Microprocessors II	3	6	5
ELN ‡	Technical Elective	3	3	4
SPH 1300	Oral Communications	3	0	3
†	General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
				18

‡Computer Engineering Technology Technical Electives:

ELN 3414	Industrial Instrumentation
ELN 4404	Medical Electronics
ELN 4414	Receivers and Transmitters
ELN 4415	Industrial Programmable Controllers
ELN 4437	Microcomputer Applications in Robotics
ELN 4505	Power Electronics
MAT 4507	Engineering Technology Math IV
EDP 3406	Microcomputer Programming: Advanced BASIC
EDP 1404	Computer Concepts and FORTRAN Programming I
EDP 1405	FORTRAN Programming II
EDP 4314	Systems and Procedures

## Computer Operations (V012)

The increased sophistication and expanded use of data processing equipment through business and industry have created a need for skilled operators. This program is designed to prepare students to seek employment as computer operators. This objective is fulfilled through study and applications in areas such as data processing concepts, computer equipment operation, computer console operations, and data processing applications with related study in communications and business-related courses.

An interview with a program counselor or faculty adviser for the Computer Operations program is required before entering this program. All prerequisites and corequisites must be met before enrolling in a particular class.

A Diploma in Computer Operations will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

(continued)



## Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
EDP 3300	Introduction to Computer Concepts	3	0	3
EDP 5613	Computer Operations I	5	2	6
COM 1304	Introduction to Communications	3	0	3
FIN 3314	Business Mathematics I	<u>3</u>	<u>0</u>	<u>3</u>
		15		

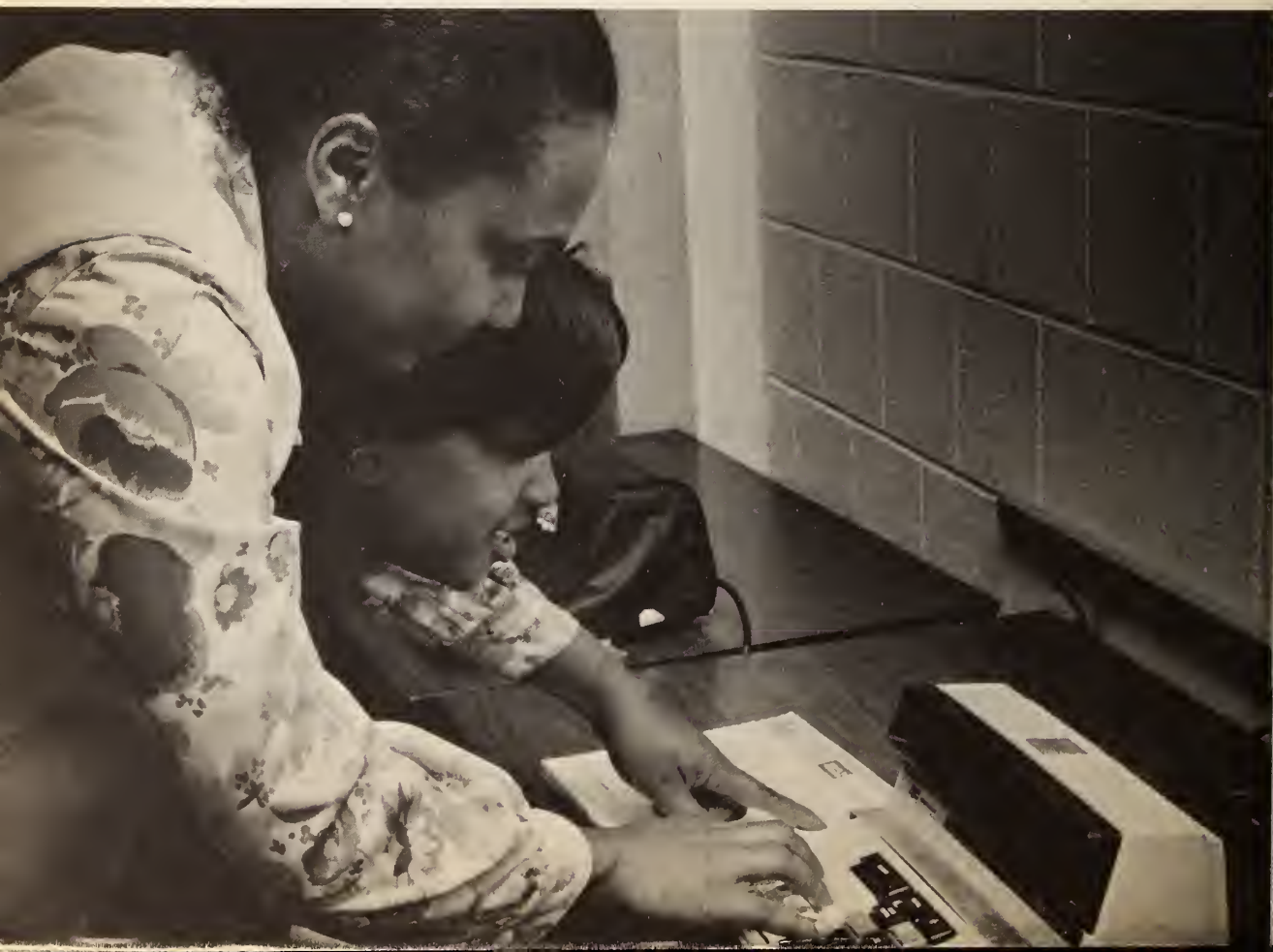
<b>THIRD QUARTER</b>				
EDP 5425	Programming II—Operations	3	2	4
EDP 5615	Computer Operations III	5	2	6
ACC 3600	General Accounting	5	2	6
EDP 4314	Systems and Procedures	<u>3</u>	<u>0</u>	<u>3</u>
		19		

NOTE: SEC 3404 required only for students who have not had a typing course in high school or post-secondary.

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
EDP 5424	Programming I—Operators	3	2	4
EDP 5614	Computer Operations II	5	2	6
COM 3505	Communications II	3	0	3
BUS 1400	Introduction to Business	<u>3</u>	<u>2</u>	<u>4</u>
		17		

<b>FOURTH QUARTER</b>				
EDP 5616	Computer Operations IV	4	4	6
EDP 5524	General Data Processing Applications	3	4	5
SPH 1300	Oral Communications	3	0	3
	General Elective	<u>3</u>	<u>0</u>	<u>3</u>
		17		

Total Credit Hours ..... 68



# Computer Programming, Business (T022)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

The Business Computer Programming program prepares students to seek work as entry level business application programmers or programmer/analysts. This objective is met through study and application in areas such as computer concepts, data processing techniques, programming, software control systems, fundamentals of systems analysis and design, real time and batch data processing applications, accounting, English and mathematics.

When these courses are linked with experience after graduation as a business application programmer or programmer/analyst, career paths in business programming, systems analysis, and management could be available.

The Special Service Packages are for individuals with an interest in a particular language or area of study.

The Associate in Applied Science Degree—Business Computer Programming will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

	HRS CR/ QTR
EDP 3300 Introduction to Computer Concepts	3
EDP 3514 Programming Logic and COBOL I	5
*EDP 3515 Programming Logic and COBOL II	5
*EDP 3516 Programming Logic and COBOL III	5
*EDP 4425 Computer Systems I	4
*EDP 4435 Computer Systems II	4
*EDP 4314 Systems and Procedures	3
*EDP 4517 Batch Data Processing Applications	5
*EDP 4516 CICS	5
*EDP 4515 Advanced Business Systems and Data Bases	5
*EDP 4518 Real Time Data Processing Applications	5
EDP 4444 RPG Programming <i>OR</i>	
EDP 3405 Microcomputer Programming—BASIC	4
*EDP 4445 Advanced RPG Programming <i>OR</i>	
*EDP 3406 Microcomputer Programming— Advanced BASIC	4
*EDP 3440 Assembly Language	4
*EDP 3324 Advanced Microcomputer Operation	3
*MAT 3504 Technical Mathematics I	5
*MAT 3505 Technical Mathematics II	5
*COM 1304 Introduction to Communications	3
*COM 3305 Communications II	3
*COM 3306 Communications III	3
SPH 1300 Oral Communications	3
ACC 1604 Principles of Accounting I	6
*ACC 1605 Principles of Accounting II	6
ACC/BUS/MKT/FIN Electives	12
Social Sciences/Humanities Elective	3
ECO 3300 Introduction to Economics	3
Total Credit Hours	116

\*Prerequisite required.

## SPECIAL SERVICE PACKAGES

### GENERAL INTEREST

EDP 3300 Introduction to Computer Concepts

### MICROCOMPUTER OPERATIONS

EDP 3310 Microcomputer Operations

\*EDP 3324 Advanced Microcomputer Operations

### MICROCOMPUTER PROGRAMMING

EDP 3405 Microcomputer Programming—BASIC

\*EDP 3406 Microcomputer Programming—Advanced  
BASIC

\*EDP 3407 Programming Microcomputers for Business  
Applications

### FORTRAN PROGRAMMING

EDP 1404 Computer Concepts and FORTRAN  
Programming I

\*EDP 1405 FORTRAN Programming II

### COBOL PROGRAMMING

EDP 3514 Programming Logic and COBOL I

\*EDP 3515 Programming Logic and COBOL II

\*EDP 3516 Programming Logic and COBOL III

### RPG PROGRAMMING

EDP 4444 RPG Programming

\*EDP 4445 Advanced RPG Programming

### OPERATING SYSTEMS AND JCL

\*EDP 4425 Computer Systems I

\*EDP 4435 Computer Systems II

### COMPUTER SCIENCE EMPHASIS FOR COLLEGE TRANSFER

Refer to the Transfer Programs section of this Catalog.

\*Prerequisite required.



# Correctional Science (T129)

The Correctional Science program is designed to provide college level education for men and women who are working in, or anticipating entering, the challenging and exciting field of corrections and allied fields. This field of study has become particularly demanding each year due to the rapid increase of persons committing crimes against society. The need for professionals to help meet the changing trends in the Criminal Justice System has never been greater.

For qualified men and women there are job opportunities in: youth services and centers as counselors and recreational personnel, departments of correction as custody and treatment staff, federal prison services, court counselors and intake officers, probation/parole officers, sheriff officers, and other related criminal justice careers.

This program is designed to give students the skills, knowledge and understanding required of correctional paraprofessional personnel. In addition, specialized courses in Probation/Parole are offered that prepare students as Assistant Court Counselors. Classes are scheduled both day and evening to accommodate full-time students and in-service persons working irregular hours.

The Associate in Applied Science Degree—Correctional Science will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
CSC 3500 Introd. to Corrections	5	0	0	5
CSC 3501 Correctional Psychology	5	0	0	5
CSC 3504 Juvenile Justice System	5	0	0	5
*CSC 3514 Contemporary Correctional Institutions	5	0	0	5
*CSC 3524 Probation/Parole	5	0	0	5
*CSC 4505 Corrections: Rights and Sanctions	5	0	0	5
*CSC 4514 Corrections: Community-Based Programs	5	0	0	5
CSC 3302 Assistant Court Counselor	3	0	0	3
CSC 3303 Supervision for Probation and Parole	3	0	0	3
CSC 3507 Criminal Personality and Behavior	5	0	0	5
CSC 3301 Drugs, Society and Crime	3	0	0	3
CSC 3300 Corrections: Policies and Procedures	3	0	0	3
HSA 3421 Helping and Behavioral Stress	4	0	0	4
†*HSA 3604 Helping Relationship: Technique	3	0	9	6
PSC 3510 Criminal Law	5	0	0	5
SEC 3404 Typing I <b>OR</b>	3	2	0	4
EDP 3310 Microcomputer Operat'ns	2	2	0	3
				71

## Technical Electives

9

†HSA 3604 is a clinical internship course which will be taken by students who have completed at least 50 credit hours in the Correctional Science Program.

\*Prerequisite required.

## GENERAL EDUCATION REQUIREMENTS:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*COM 1304 Introd. to Communications	3	0	0	3
*COM 1305 English Composition II <b>OR</b>				
*COM 3305 Communications II	3	0	0	3
*COM 1306 Engl. Composition III <b>OR</b>				
*COM 3306 Communications III	3	0	0	3
HED 1204 Standard First Aid	1	2	0	2
MAT3501 Math for Public Safety <b>OR</b>				
*MAT 1504 College Algebra	5	0	0	5
PSY 2504 General Psychology	5	0	0	5
SPH 1300 Oral Communications	3	0	0	3
				24

Total Credit Hours ..... 104

# Data Entry Operations (V129)

The Data Entry Operator prepares data which is read by the computer using an automatic coding device. The importance of the skilled operator is being recognized with the increased use of computers in business and industry.

The Data Entry Operations program is designed to give graduates the knowledge and skills needed to seek employment in the field of Data Entry. This program prepares students to follow keying instructions and to use formats effectively in data entry applications. Simulated jobs will be practiced to obtain keying speed and accuracy. A Certificate will be awarded by the College upon completion of this program

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	
FIRST QUARTER					SECOND QUARTER					
EDP	3300 Introduction to Computer Concepts		3	0	3	EDP	5902 Data Entry II	4	15	9
EDP	5901 Data Entry I		4	15	9	SEC	3304 Office Machines	2	2	3
FIN	3314 Business Mathematics I	<u>3</u>	<u>0</u>	<u>3</u>		COM	5500 Communication Skills	<u>5</u>	<u>0</u>	<u>5</u>
				15					17	
Total Credit Hours . . . . .						32				
SPECIAL SERVICE COURSE										
EDP	5201 CRT Use in Business Applications									

# Dental Assisting (V011)

The primary function of the dental assistant is to serve as the chairside assistant to the dentist. Here the assistant plays an active and integral role in dental procedures by preparing patients for treatment, setting out instruments in the order in which they are to be used, keeping the operation field clear during treatment, mixing filling materials and dental cements, and passing these materials and instruments to the dentist as they are needed. The trained dental assistant also checks equipment, sterilizes instruments, and engages in such laboratory work as making study models of teeth, casting inlays, exposing, processing and mounting dental x-ray film. In many offices, the dental assistant also serves as receptionist and office manager, scheduling appointments, and maintaining financial and patient records.

The program includes oral pathology, chairside assisting, communications, human relations and record keeping. A large portion of the student's time is spent in laboratory work and the patient clinic.

This program is accredited by the Commission on Dental Education of the American Dental Association.

A Diploma in Dental Assisting will be awarded by the College upon completion of this program. Graduates are eligible to take the National Certification Examination.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR	COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIRST QUARTER						SECOND QUARTER					
DEA 5300	Anatomy and Physiology	3	0	0	3	DEA 5243	Dental Office Practice I	0	0	6	2
DEA 5302	Introduction to Dental Assisting	2	0	3	3	DEA 5305	Preclinical Science II	3	0	0	3
DEA 5304	Preclinical Science I	3	0	0	3	DEA 5514	Dental Roentgenology	2	4	3	5
DEA 5700	Dental Materials	3	8	0	7	DEA 5524	Clinical Procedures I	2	6	0	5
COM 1304	Introd. to Communications	3	0	0	3	HSA 5200	Human Relations	2	0	0	2
					19	MED 3404	Medical Economics	3	2	0	4
											21
THIRD QUARTER						FOURTH QUARTER					
DEA 5244	Dental Office Practice II	0	0	9	3	DEA 5204	Dental Assistant Seminar	2	0	0	2
DEA 5525	Clinical Procedures II	4	0	3	5	DEA 5346	Dental Office Practice IV	0	0	9	3
DEA 5534	Dental Office Management	4	0	3	5	DEA 5745	Dental Office Practice III	0	0	21	7
SPH 1300	Oral Communications	3	0	0	3						12
					16						
						Total Credit Hours . . . . . 68					
						NOTE: Applicants must give evidence of typing skills before entering fourth quarter courses.					

**NOTE:** Applicants must give evidence of typing skills before entering fourth quarter courses.



# Dental Hygiene (T054)

Dental hygiene students cultivate the judgment and skills needed for providing oral health care to the public under supervision of the dentist and within the limits of the ethics and laws of the State. They take patient histories, teach oral hygiene, clean teeth, take x-rays, and apply preventive agents under the supervision of dentists. Dental hygienists may be employed in dentists' offices, clinics, schools, public health agencies, industry, and educational institutions.

The Dental Hygiene program at CPCC consists of the theory and practice of dental hygiene based on science and health courses and appropriate general education experiences. Experience is provided through work in a well-equipped dental hygiene clinic on the College campus and through affiliation with nearby hospitals. Subjects such as pharmacology, head and neck anatomy, English composition, and microbiology are included.

Admission is based upon specific text scores, personal interviews, academic performance, skills evaluation, evidence of good physical health, and recommendations. Prerequisites include high school algebra, chemistry, or the equivalent.

This program at CPCC is accredited by the Commission on Dental Accreditation of the American Dental Association. The Associate in Applied Science Degree—Dental Hygiene will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director at (704) 373-6431, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
DEN 3401 Dental Anatomy	3	2	0	4
DEN 3411 Preclinical Dental Hygiene I	2	4	0	4
BIO 1504 Anatomy and Physiology I	3	4	0	5
CHM 1503 Chemistry for Dental Hygiene	<u>3</u>	<u>4</u>	<u>0</u>	<u>5</u>
				18

<b>THIRD QUARTER</b>				
DEN 3513 Clinical Dental Hygiene I	2	0	9	5
DEN 3503 Dental Radiology	3	4	0	5
DEN 3203 Dental Emergencies	2	0	0	2
DEN 3223 Dental Health Education	1	2	0	2
BIO 1503 Microbiology	<u>3</u>	<u>4</u>	<u>0</u>	<u>5</u>
				19

<b>FIFTH QUARTER</b>				
DEN 4305 Periodontology	3	0	0	3
DEN 4715 Clinical Dental Hygiene II	2	0	15	7
DEN 4505 Dental Materials	3	4	0	5
BIO 2305 Nutrition	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				18

<b>SEVENTH QUARTER</b>				
DEN 4617 Clinical Dental Hygiene IV	1	0	15	6
DEN 4207 Community Dental Health II	1	0	3	2
DEN 4407 Dental Hygiene Practice	3	0	3	4
DEN 1306 English Composition III	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				15

Total Credit Hours ..... 122

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
DEN 3202 Head and Neck Anatomy	2	0	0	2
DEN 3512 Preclinical Dental Hygiene II	2	6	0	5
DEN 3402 Oral Histology and Embryology	3	4	0	4
BIO 1505 Anatomy and Physiology II	3	4	0	5
COM 1304 Introd. to Communications	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				19

<b>FOURTH QUARTER</b>				
COM 1305 English Composition II	3	0	0	3
SOC 2514 Introduction to Sociology	5	0	0	5
SPH 1300 Oral Communications	3	0	0	3
PSY 2504 General Psychology	<u>5</u>	<u>0</u>	<u>0</u>	<u>5</u>
				16

<b>SIXTH QUARTER</b>				
DEN 4616 Clinical Dental Hygiene III	1	0	15	6
DEN 4406 Community Dental Health I	3	2	0	4
DEN 4306 Pathology	3	0	0	3
DEN 4206 Chairside Assisting	1	2	0	2
DEN 4226 Pharmacology	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
				17

# Diesel Mechanics (V013)

Diesel engines are found in farm and construction equipment, electrical generators, trucks, buses, trains, automobiles and ships. Some diesel mechanics specialize in maintenance and repair of equipment while others specialize in rebuilding engines. Diesels are complicated machines requiring highly skilled, well-trained personnel to repair and maintain them for proper operation at peak efficiency.

Through class assignments and shop practice, students learn to maintain and repair engines, chassis and suspension systems, and power trains. They use hand tools, precision measuring and testing instruments, and power tools in overhauling and maintaining diesel powered equipment.

This program provides for a detailed four quarter (44 weeks) study dealing with heavy duty and light duty diesels. Air brakes, automotive engines, electric arc welding, machine shop, and hydraulic and pneumatic courses complete the program.

A Diploma in Diesel Mechanics will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director at (704) 373-6782, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FIRST QUARTER					
AUT	5401	Internal Combustion Engines	2	6	4
AUT	5415	Electrical Systems I	2	6	4
DSL	5300	Diesel Fundamentals	2	3	3
DSL	5304	Hydraulics and Pneumatics	2	2	3
AUT	5403	Basic Calculations for Auto, Diesel and Power Mechanics	<u>4</u>	<u>0</u>	<u>4</u>
			18		
THIRD QUARTER					
AUT	5254	Auto Heating and Air Conditioning	1	3	2
DSL	5316	Detroit 2-Stroke Cycle Engines	1	6	3
DSL	5317	Mack Diesels	1	6	3
DSL	5320	Fuel Injection Systems II	2	3	3
PHY	5305	Shop Science II	2	2	3
WLD	5220	Basic Electric Arc Welding	<u>1</u>	<u>3</u>	<u>2</u>
			16		

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SECOND QUARTER				
AUT	5212 Electrical Testing	1	3	2
DSL	5314 Caterpillar Diesels	1	6	3
DSL	5315 Cummins Diesels	1	6	3
DSL	5319 Fuel Injection Systems I	2	3	3
PHY	5304 Shop Science I	2	2	3
WLD	5210 Basic Oxyacetylene Welding	<u>1</u>	<u>3</u>	<u>2</u>
				16
FOURTH QUARTER				
AUT	5425 Auto Powertrain Systems I	2	6	4
COM	5500 Communication Skills	5	0	5
DSL	5308 Air Brakes	2	2	3
DSL	5318 Diesel Tune-Up and Troubleshooting	2	3	3
MAC	5201 Machine Shop Fundamentals Elective	1	3	2
				<u>2</u>
				19

Total Credit Hours ..... 69

## RECOMMENDED ELECTIVES:

AUB 5202	Auto Renewal
AUB 5214	Door and Fender Alignment
AUB 5300	Auto Body Minor Damage and Paint Repair
AUT 5201	Suspension Systems and Alignment
DSL 4400	Automotive Diesel Engines
DSL 5400	Heavy Duty Transmission Repair
HSA 5200	Human Relations
MGT 5200	Shop Management
PME 5211	Small Engine Repair
WLD 5250	Basic Gas Metal Arc Welding



# Electrical Engineering Technology (T044)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Electrical Engineering Technology involves the practical application of electrical and electronic fundamentals in the design, fabrication/installation, testing, repair and maintenance of electrical components, circuits and systems. The electrical engineering technician is concerned with electrical systems, industrial controls, power electronics, analog and digital circuitry, and the application of microcomputers in electrical systems. While the *electronics* engineering technician is more concerned with electronic components and computer-electronics, the *electrical* engineering technician is more concerned with electrical power and control systems.

The Electrical and Electronics Engineering Technology program provides a basic background in the practical application of both fundamental and specialized electrical and electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electrical specialty courses that provide concentrated study in various fields of the electrical industry, including: industrial controls, planning electrical installations, power electronics, electrical machines and programmable logic controllers.

In the rapidly expanding local high tech industry, Electrical Engineering Technology graduates may choose employment in specialized fields such as: power electronics, industrial programmable controllers application, industrial controls, commercial/industrial electrical installations, electrical testing, and industrial instrumentation, electronic motor control, and automated manufacturing/robotics. They may also continue for two or more years at a senior institution offering a Bachelor of Engineering Technology (BET) program.

The Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. This modern facility includes adequate equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics, programmable logic controls, and robotics. The facility houses numerous microcomputer development systems, personal computers, robots, programmable logic controllers, electrical machines, and electronic motor controllers.

The Associate in Applied Science Degree—Electrical Engineering Technology will be awarded by the College upon completion of this course.

For more information or answers to questions, call the program counselor at (704) 373-6881,  
the Electrical/Electronics program director or Technology Division head  
at (704) 373-6557, weekdays, 8 a.m. to 5 p.m.

Suggested sequence of required courses:

COURSE TITLE					COURSE TITLE				
		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					<b>SECOND QUARTER</b>				
ELN 3100	Electrical/Electronics Seminar	1	0	1	ELN 3515	Basic Electricity (AC)	3	6	5
ELN 3514	Basic Electricity (DC)	3	6	5	DFT 3400	Electrical/Electronics Drafting	2	6	4
EDP 3405	Microcomputer Programming— BASIC	3	6	4	MAT 3508	Engineering Technology Math II	5	0	5
MAT 3507	Engineering Technology Math I	5	0	5	COM 3305	Communications II	3	0	3
COM 1304	Introduction to Communications	3	0	3					17
				18					
<b>THIRD QUARTER</b>					<b>FOURTH QUARTER</b>				
ELN 3404	Electronics I: Active Devices	3	3	4	ELN 3405	Electronics II: Analog Circuits	3	3	4
ELN 4444	Network Analysis	3	3	4	ELN 4427	Digital Circuits I	3	3	4
MAT 3509	Engineering Technology Math III	5	0	5	ELN 4525	Electrical Machines I	3	6	5
COM 3306	Communications III	3	0	3	PHY 1404	Physics I: Basic Mechanics	3	2	4
				16					17
<b>FIFTH QUARTER</b>					<b>SIXTH QUARTER</b>				
ELN 3406	Electronics III: Op-Amps	3	3	4	ELN 4326	Electrical/Electronics Project	1	6	3
ELN 4401	Planning Electrical Installations	3	3	4	ELN 4415	Industrial Programmable Controllers	3	3	4
ELN 4526	Electrical Machines II	3	6	5	†	Technical Elective	3	3	4
PHY 1405	Physics II: Matter	3	2	4	SPH 1300	Oral Communications	3	0	3
				17	†	General Education Elective	3	0	3
									17

(continued)

### SEVENTH QUARTER

ELN 4100	Senior Seminar	1	0	1
ELN 4505	Power Electronics	3	6	5
ELN 4307	Systems Correction Procedure	1	6	3
†	Technical Elective	3	3	4
†	General Education Elective	3	0	3
		<u>16</u>		
Total Credit Hours		118		

†General Education Electives must come from the areas of communications, social science, or humanities.

### †TECHNICAL ELECTIVES:

ELN 3414	Industrial Instrumentation
ELN 4310	Introduction to Microprocessors
ELN 4327	Microcomputer Applications Project
ELN 4345	Advanced Electrical/Electronics Project
ELN 4404	Medical Electronics
ELN 4414	Receivers and Transmitters
ELN 4416	Computer Maintenance I
ELN 4434	Digital Circuits II
ELN 4437	Microcomputer Applications in Robotics
ELN 4547	Microprocessors I
ELN 4557	Microprocessors II
ELN 4567	Microcomputer System Design
MAT 4507	Engineering Technology Math IV
EDP 3406	Microcomputer Programming—Advanced BASIC

*Electrical Engineering Technology is an ABET accredited program at CPCC.*

## Electrical Installation and Maintenance (V018)

This program is designed to help meet the needs of individuals who would like to enter the electrical installation and maintenance field as on-the-job trainees or apprentices. Graduates of this program may assist in the planning, layout, installation, checkout and maintenance of systems in residential, commercial or industrial plants. They will understand the National Electrical Code Regulations related to electrical installations. Graduates will also be able to measure voltage, current, resistance and power in single and polyphase alternating current circuits. They will have basic knowledge of motors and motor control systems, industrial electronic control systems, business procedures, organization and practices, communication skills, and will understand electrical conservation and load management as applied to both residential and industrial uses.

A Diploma in Electrical Installation and Maintenance will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director  
at (704) 373-6672, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
ELC 5901	Direct and Alternating Current	5	12	9
ELC 5401	Basic Calculations for Electricians	4	0	4
PHY 5304	Shop Science I	2	2	3
	Elective	<u>2</u>	<u>0</u>	<u>2</u>
		<u>18</u>		

### THIRD QUARTER

ELC 5802	Alternating Current and Direct Current Machines and Controls	4	12	8
ELC 5510	Industrial Electronics I	3	6	5
HSA 5200	Human Relations	2	0	2
ELC 5301	Blueprint Reading: Electrical	<u>3</u>	<u>0</u>	<u>3</u>
		<u>18</u>		

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
ELC 5803	Residential Wiring	5	9	8
ELC 5300	Blueprint Reading: Building Trades	3	0	3
COM 5500	Communication Skills	5	0	5
PHY 5305	Shop Science II	<u>2</u>	<u>2</u>	<u>3</u>
		<u>19</u>		

### FOURTH QUARTER

ELC 5904	Commercial & Industrial Wiring	5	12	9
ELC 5520	Industrial Electronics II	3	6	5
ELC 5305	Construction Trades Business Operations	<u>3</u>	<u>0</u>	<u>3</u>
		<u>17</u>		

Total Credit Hours ..... 72

(continued)

## RECOMMENDED ELECTIVES:

BUS 1400	Introduction to Business	3	2	4
EDP 3300	Introduction to Computer Concepts	3	0	3
ELN 3300	Electrical Installation and Safety	3	0	3
ELN 4401	Planning Electrical Installations	3	3	4
HED 1204	First Aid I	1	2	2
MKT 4322	Purchasing	3	0	3
RDN 9510	Reading Improvement	5	0	5
SPH 1300	Oral Communication	3	0	3

## Electronics Engineering Technology (T045)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Electronics Engineering Technology involves the practical application of electrical and electronics fundamentals in the design, fabrication, manufacturing, testing, repair and maintenance of electronic components, circuits and systems. The Electronics Engineering Technician is concerned with analog and digital circuitry, microprocessors, microcomputers, and their practical application in modern industrial applications. While the *electrical* engineering technician is primarily concerned with electrical power and control systems, the *electronics* engineering technician is more concerned with electronic components, analog/digital circuits, and computer electronics.

The Electronics Engineering Technology program provides a basic background in the practical application of both fundamental and specialized electrical and electronics principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electronic specialty courses that provide concentrated study in various fields of the electronic industry, including computer-electronics, microprocessors, microcomputer system design, computer maintenance, and microcomputer applications in robotics.

With the expanding high tech industry, Electronics Engineering Technology graduates may choose employment in specialized fields such as computer-electronics, microcomputer system design and interfacing, digital electronics, analog electronics, medical electronics, communication electronics, consumer electronics, industrial instrumentation, industrial controls, automated manufacturing/robotics, and computer maintenance. Graduates may also continue study for two or more years at a senior institution offering Bachelor of Engineering Technology (BET) programs.

The Electrical/Electronics Engineering Technology laboratories at CPCC are staffed during day and evening hours in order that students may devote as much time as possible to laboratory assignments. This modern facility includes adequate equipment to support practical laboratory activity in all courses from basic electricity to computer-electronics and robotics. The electronics facility houses numerous microcomputer development systems, personal microcomputers, robots, and programmable logic controllers.

The Associate in Applied Science Degree—Electronics Engineering Technology will be awarded by the College upon completion of this program.

For more information contact the program counselor at (704) 373-6881, the Electrical/Electronics program director or the Technology Division head at (704) 373-6557, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR			
<b>FIRST QUARTER</b>							<b>SECOND QUARTER</b>									
ELN 3100	Electrical/Electronics Seminar			1	0	1	ELN 3515	Basic Electricity (AC)			3	6	5			
ELN 3514	Basic Electricity (DC)			3	6	5	DFT 3400	Electrical/Electronics Drafting			2	6	4			
EDP 3405	Microcomputer Programming— BASIC			3	2	4	MAT 3508	Engineering Technology Math II			5	0	5			
MAT 3507	Engineering Technology Math I			5	0	5	COM 3305	Communications II			<u>3</u>	<u>0</u>	<u>3</u>			
COM 1304	Introduction to Communications			<u>3</u>	<u>0</u>	<u>3</u>									17	



**THIRD QUARTER**

ELN 3404 Electronics I: Active Devices	3	3	4
ELN 4444 Network Analysis	3	3	4
MAT 3509 Engineering Technology Math III	5	0	5
COM 3306 Communications III	<u>3</u>	<u>0</u>	<u>3</u>
			16

**FIFTH QUARTER**

ELN 3406 Electronics III: Op-Amps	3	3	4
ELN 4434 Digital Circuits II	3	3	4
ELN 4547 Microprocessors I	3	6	5
PHY 1405 Physics II: Matter	<u>3</u>	<u>2</u>	<u>4</u>
			17

**SEVENTH QUARTER**

ELN 4100 Senior Seminar	1	0	1
ELN 4307 Systems Correction Procedure	2	6	4
ELN ‡ Technical Elective	3	3	4
ELN ‡ Technical Elective	3	3	4
† General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
			16

Total Credit Hours ..... 117

†General Education Electives must come from the areas of communications, social science, or humanities.

**FOURTH QUARTER**

ELN 3405 Electronics II: Analog Circuits	3	3	4
ELN 4427 Digital Circuits I	3	3	4
ELN 4525 Electrical Machines I	3	6	5
PHY 1404 Physics I: Basic Mechanics	<u>3</u>	<u>2</u>	<u>4</u>
			17

**SIXTH QUARTER**

ELN 4326 Electrical/Electronics Project	1	6	3
ELN ‡ Technical Elective	3	3	4
ELN ‡ Technical Elective	3	3	4
SPH 1300 Oral Communications	3	0	3
† General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
			17

**‡TECHNICAL ELECTIVES:**

ELN 3414 Industrial Instrumentation
ELN 4304 Radiotelephone Operation
ELN 4327 Microcomputer Applications Project
ELN 4345 Advanced Electrical/Electronics Topics
ELN 4401 Planning Electrical Installations
ELN 4404 Medical Electronics
ELN 4414 Receivers and Transmitters
ELN 4415 Industrial Programmable Controllers
ELN 4416 Computer Maintenance I
ELN 4437 Microcomputer Applications in Robotics
ELN 4505 Power Electronics
ELN 4526 Electrical Machines II
ELN 4567 Microcomputer System Design
MAT 4507 Engineering Technology Math IV
EDP 3406 Microcomputer Programming—Advanced BASIC

*Electronics Engineering Technology is an ABET accredited program at CPCC.*

## Fire Protection Technology (T063)

The fire protection technician is responsible for seeking to prevent losses by eliminating hazards, by inspecting various types of buildings for fire and safety hazards, by checking existing fire and safety codes for methods of eliminating hazards, and by applying principles of protection in a logical sequence to arrive at solutions.

Employment opportunities as a fire protection technician are available with insurance companies, industrial firms, governmental agencies, educational organizations, fire protection equipment manufacturers, and research groups. The technician may also be involved in teaching the use of basic fire protection and safety equipment, in demonstrating equipment, and in supervising installation of equipment.

Fire Protection Technology is a two-year program of technical education designed to prepare students for entry-level employment as fire protection technicians. The program provides basic technical background in fire protection, hazardous materials, safety, and other related subjects. Students are trained to identify fire and safety hazards and to propose and demonstrate effective measures for eliminating those hazards. Specific skills are developed in many phases of the occupation. The Associate in Applied Science Degree—Fire Protection Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director at (704) 373-6705, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

(continued)

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
FIP 3303 Fire Protection I	3	0	0	3	<b>TECHNICAL ELECTIVE (OPTIONAL):</b>				
FIP 4304 Fire Protection Law	3	0	0	3	FIP 3310 Learn Not to Burn	3	0	0	3
FIP 4414 Inspection Principles and Building Codes	3	0	3	4	<b>GENERAL EDUCATION REQUIREMENTS:</b>				
FIP 4444 Fire Fighting Strategy	3	2	0	4	*CEM3300 Fire Protection Chemistry	3	0	0	3
FIP 3404 Chemistry of Flammable Materials	3	2	0	4	*COM1304 Introd. to Communications	3	0	0	3
FIP 3304 Fire Protection II	3	0	0	3	HSA 3421 Helping and Behavioral Stress	4	0	0	4
*FIP 3405 Flame Propagation and Material Rating	2	4	0	4	*COM3305 Communications II	3	0	0	3
*FIP 4434 Chemical and Radiation Hazards	3	2	0	4	EDP 3310 Microcomputer Operations	2	2	0	3
FIP 3301 Fire Prevention Programs and Public Relations	3	0	0	3	*COM3306 Communications III	3	0	0	3
FIP 4454 Building Construction	3	2	0	4	MAT3500 Mathematics for Fire Protection	5	0	0	5
*FIP 4464 Hazardous Material Analysis and Emergency Planning	2	4	0	4	ARC 3334 Architectural Drafting I (Basic)	<u>1</u>	<u>6</u>	<u>0</u>	<u>3</u>
FIP 4423 Portable and Fixed Extinguishing Systems	3	2	0	4	Total Credit Hours . . . . .				102
FIP 3401 Plant Emergency Operations	3	2	0	4	*Prerequisite required.				
FIP 3406 Arson Investigation I	3	2	0	4					
*FIP 4403 Hydraulics for Fire Protection	3	2	0	4					
FIP 4424 Automatic Alarm Systems	3	2	0	4					
*FIP 3408 Arson Investigation II	3	2	0	4					
*FIP 4404 Water Distribution Systems	3	2	0	4					
FIP 4405 Sprinkler and Standpipe Systems	3	2	0	4					
FIP 4314 Methods of Teaching	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>					
				75					

## Food Preparation (T074)

With increased numbers of people eating outside the home, projected employment needs in the food preparation area are numerous. Students learn the fundamentals of all types of food preparation, in addition to supervisory skills and financial management.

Specific jobs include Garde Manger, Sous Chef, Preparation and Line Cook, Banquet Cook, Entry Level Food and Beverage Management positions, Baker, and First Cook. The positions of Kitchen Manager and, ultimately, Executive Chef may be attained with previous experience and/or several years experience.

Business management, accounting, communications, and human relations provide a well balanced program of both technical and administrative skills.

The Associate in Applied Science Degree—Food Preparation will be awarded by the College upon completion of this program. The Food Preparation program also offers a Certificate program. To qualify for a Certificate, students must complete all of the specialized course requirements (55 hours). The Certificate may be credited towards the Associate Degree.

For more information or answers to questions, call the program director, (704) 373-6914, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

(continued)

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS			COURSE TITLE	HRS		
	CLS	LAB	CR/ /WK /WK QTR		CLS	LAB	CR/ /WK /WK QTR
<b>SPECIALIZED COURSE REQUIREMENTS:</b>				<b>GENERAL COURSES:</b>			
FSO 3300 Introduction to Food Service Occupations	3	0	3	FSO 3301 Nutrition	3	0	3
FSO 3504 Food Preparation I	2	9	5	FSO 3305 Table Cookery	2	3	3
FSO 4414 Garde Manger I	2	6	4	FIN 3314 Business Mathematics I	3	0	3
FSO 4407 Baking I	2	6	4	*FIN 3315 Business Mathematics II	3	0	3
FSO 3505 Food Preparation II	2	9	5	ACC 3500 Small Business Accounting	5	0	5
FSO 4415 Garde Manger II	2	6	4	FSO 4304 Food and Labor Cost Controls	3	0	3
FSO 4408 Baking II	2	6	4	BUS 1400 Introduction to Business	3	2	4
FSO 3506 Food Preparation III	2	9	5	MGT 3303 Small Business Management	3	0	3
FSO 4416 Garde Manger III	2	6	4	BUS 3300 Human Relations in Business	3	0	3
FSO 4409 Baking III	2	6	4	SPH 1300 Oral Communications	3	0	3
FSO 4506 Food Preparation IV	2	9	5	*COM 1304 Introduction to Communications	3	0	3
FSO 4426 Garde Manger IV	2	6	4	*COM 3505 Communications II	3	0	3
FSO 4419 Baking IV	2	6	4	MGT 4330 Supervision	3	0	3
			55	†MKT 3200 Cooperative Education Orientation	2	0	2
				†FSO 4208 Cooperative Education	0	20	2
				EDP 3310 Microcomputer Operations	2	2	3
				Elective	2	0	2
							51
				Total Credit Hours			106

\*Prerequisite required.

†Or General Elective.

## Graphic Arts (V022)

Graphic Arts in the United States is the largest industry in terms of the number of manufacturing plants. Over one million people are employed in this field, turning out an annual volume of printed products value in the billions of dollars. Recent growth has been slightly faster than that of the Gross National Product. With new technology, many of the machines, methods and processes are changing, so the industry increasingly requires more highly skilled technicians and craftsmen.

CPCC students learn to prepare copy and art work, proofread, operate presses, understand the photomechanical process, and operate bindery equipment. Students will learn theory and practical applications through laboratory experiences. In addition, specific training will be offered in typesetting, offset stripping, platemaking, camera work, and press applications.

A Diploma in Graphic Arts will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS			COURSE TITLE	HRS		
	CLS	LAB	CR/ /WK /WK QTR		CLS	LAB	CR/ /WK /WK QTR
<b>FIRST QUARTER</b>				<b>SECOND QUARTER</b>			
COM 5500 Communication Skills	5	0	5	PRN 5310 Paper and Ink	3	0	3
HSA 5200 Human Relations	2	0	2	PRN 5425 Process Camera I	2	2	3
PRN 5369 Introduction to Graphic Arts	3	0	3	PRN 5635 Stripping I and Platemaking	2	2	3
PRN 5401 Copy Preparation I	2	4	4	PRN 5402 Basic Calculations for Printers	4	0	4
			16	PRN 5424 Offset Press I and Bindery	2	4	4
							17

(continued)



## THIRD QUARTER

PRN 5310 Process Camera II	2	2	4
PRN 5425 Offset Press II	2	4	4
PRN 5435 Offset Stripping II	2	4	4
PRN 5700 Printing Applications I	2	15	7

## OR

PRN 5371 Printing Applications I—Part A	2	3	3
PRN 5272 Printing Applications I—Part B	0	6	2
PRN 5273 Printing Applications I—Part C	0	6	2
Elective	—	—	3
			21

## FOURTH QUARTER

PRN 5301 Printing Management	3	0	3
PRN 5303 Printing Estimating I	3	0	3
PRN 5409 Color Reproduction	3	2	4
PRN 5704 Printing Applications II	2	15	7

## OR

PRN 5381 Printing Applications II—Part A	2	3	3
PRN 5282 Printing Applications II—Part B	0	6	2
PRN 5283 Printing Applications II—Part C	0	6	2

## OR

PRN 5207 Co-Op Lab	0	20	2
Elective	—	—	3
Credit hrs. w/Co-Op Lab Option	—	—	15
Credit hrs. w/Printing Applications Option	—	—	20

Total Credit Hours w/Co-Op Lab Option . . . . . 69

Total Credit Hours w/Printing Applications Option . . . . . 74

## RECOMMENDED ELECTIVES:

ACC 1604 Principles of Accounting	5	2	6	PRN 4311 Printing Sales	3	0	3
BUS 1400 Introduction to Business	3	2	4	PRN 4337 Color Separation Techniques and Theory	2	2	3
BUS 2304 Business Law I	3	0	3	PRN 5313 Typesetting I	2	2	3
BUS 4303 Labor Law	3	0	3	PRN 5316 Production Screen Printing	2	2	3
COM 1304 Introduction to Communication	3	0	3	PRN 5390 Individual Study	3	0	3
COM 3505 Communications II	3	0	3	PRN 5403 Copy Preparation II	2	4	4
MGT 2314 Principles of Management	3	0	3	SEC 3404 Typing I	3	2	4
MGT 4330 Supervision	3	0	3	TRN 3451 Traffic Management	3	2	4
MKT 1304 Marketing	3	0	3				
MKT 4322 Purchasing	3	0	3				

## Graphic Arts Course Clusters

Graphics Arts Course Clusters provide specific groups of courses leading to graphic arts employment as rapidly as possible. Students select from several course clusters leading to Certificate of Accomplishment. All course clusters may be transferred to the Diploma or Degree programs. Clusters are one to three quarters and are in:

**Typesetting/Copy Preparation**—how to mark up and set type on a second-generation typesetter and how to paste up camera-ready copy; **Duplicator Operation**—how to run single and multicolor jobs on offset duplicators, including stripping, making plates, and basic bindery operation; **Press Operation**—in addition to those above, how to operate a large offset press; **Process Camera Operation**—how to shoot line, halftone and special effects photography on the process camera; **General Print Shop**—how to perform general duties in the job printing shop, from typesetting to bindery operations; **Color Printing**—how to perform camera stripping, and basic color separation operations; **Stripping**—how to perform basic, advanced, and color stripping for both press and duplicator; **Printing Management and Sales**—how to perform basic skills necessary to supervise a small printing shop or in-plant facility or be a first-line supervisor in a larger shop; **Screen Printing**—how to perform duties necessary to do production work in various phases of the screen printing industry.

Call the Graphic Arts Department, 373-6782 or 373-6655 for suggested course sequences and more information.

# Graphic Arts Management (T026)

This program provides an overview of the graphic arts industry with training in major areas of lithographic preparation, printing and management/supervision. Students may combine graphic arts theory with on-campus laboratory experience, augmented by cooperative industrial training. Specific training is offered in typesetting, copy preparation, offset stripping, platemaking, camera work, press applications, management, and supervision.

The Associate in Applied Science Degree—Graphic Arts Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, (704) 373-6782, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
COM 1304	Introd. to Communications	3	0	3
HSA 5200	Human Relations	2	0	2
PRN 5369	Introduction to Graphic Arts	3	0	3
PRN 5401	Copy Preparation I	2	4	4
PRN 5402	Basic Calculations for Printers	4	0	4
†	Technical Elective	—	—	3
				19

### THIRD QUARTER

BUS 1400	Introduction to Business	3	2	4
COM 3306	Communications III	3	0	3
PRN 5315	Process Camera II	2	2	3
PRN 5425	Offset Press II	2	4	4
PRN 5435	Offset Stripping II	<u>2</u>	<u>4</u>	<u>4</u>
				18

## FIFTH QUARTER

BUS 2304	Business Law	3	0	3
PRN 4337	Color Separation Techniques and Theory	2	2	3
PRN 5313	Typesetting I	2	2	3
PRN 5700	Printing Applications I	2	15	7
	<b>OR</b>			
PRN 5371	Printing Applications I—Part A	2	3	3
PRN 5272	Printing Applications I—Part B	0	6	2
PRN 5273	Printing Applications I—Part C	0	6	2
†	Technical Elective	—	—	3
				19

**RECOMMENDED TECHNICAL ELECTIVES:**

ACC 1604	Principles of Accounting I	5	2	6
BUS 2305	Business Law II	3	0	3
BUS 2306	Business Law III	3	0	3
BUS 3300	Human Relations in Business	3	0	3
BUS 3304	Business Statistics	3	0	3
EDP 3300	Introduction to Computer Concepts	3	0	3
FIN 4334	Business Finance I	3	0	3
MGT 4333	Production Planning and Control	3	0	3
MKT 1304	Marketing	3	0	3
MKT 4322	Purchasing	3	0	3
PRN 5316	Production Screen Printing	2	2	3
PRN 5317	Typesetting II	2	2	3
PRN 5390	Individual Study	3	0	3
PRN 5403	Copy Preparation II	2	4	4
SEC 3404	Typing I	3	2	4
TRN 3451	Traffic Management	3	2	4
VCO 3304	Photography I	2	2	3
VCO 4304	Typography and Lettering I	2	2	3

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
COM 3505	Communications II	3	0	3
PRN 5310	Paper and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5365	Stripping I and Platemaking	2	2	3
PRN 5424	Offset Press I and Bindery	<u>2</u>	<u>4</u>	<u>4</u>
				16

## FOURTH QUARTER

PRN 5301	Printing Management	3	0	3
PRN 5303	Printing Estimating	3	0	3
PRN 5409	Color Reproduction	3	2	4
PRN 4311	Printing Sales	3	0	3
†	General Education Electives	<u>6</u>	<u>0</u>	<u>6</u>
				19

## SIXTH QUARTER

MGT 2314	Business Management	3	0	3
MGT 4303	Labor Law	3	0	3
MGT 4330	Supervision	3	0	3
PRN 5704	Printing Applications II	2	15	7
<i>OR</i>				
PRN 5381	Printing Applications II—Part A	2	3	3
PRN 5282	Printing Applications II—Part B	0	6	3
PRN 5283	Printing Applications II—Part C	0	6	2
<i>OR</i>				
PRN 5207	Co-op Lab	0	20	2
†	General Education Elective	<u>3</u>	<u>0</u>	<u>3</u>
	Credit Hrs. w/ Co-op Option . . .			14
	Credit Hrs. w/ Printing			

Applications Option .....	19
Total Credit Hours with Co-op Option .....	105
Total Credit Hrs. with Printing Applications Option ....	110

### ‡RECOMMENDED GENERAL EDUCATION ELECTIVES:

ART 1307	Basic Photography	2	2	3
ART 1324	Design I	0	6	3
ECO 3300	Introduction to Economics	3	0	3
JOU 1300	Practical Journalism	2	3	3
PSY 2504	General Psychology	5	0	5
SPH 1300	Oral Communications	3	0	3
SPH 2304	Public Speaking	3	0	3

# Health Record Clerk (V066)

The health record clerk is trained to work in a variety of jobs in facilities where health records are used and maintained. In the physician's office or clinic, the health records clerk could assume the position of medical clerk, receptionist or insurance clerk. In a hospital setting, the health records clerk might work in the medical records department or as a unit/ward clerk, admissions clerk, or in the insurance department.

This is a two-quarter program, designed to give students basic knowledge necessary to work in a clerical area of a health care facility. A Certificate will be awarded by the College upon completion.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

		HRS	HRS	HRS	HRS			HRS	HRS	HRS	HRS
COURSE TITLE		CLS	LAB	CLC	CR/	COURSE TITLE		CLS	LAB	CLC	CR/
		/WK	/WK	/WK	QTR			/WK	/WK	/WK	QTR
FIRST QUARTER						SECOND QUARTER					
MRT 3205	Health Record Procedures I	1	2	0	2	MRT 3206	Health Records Pro- cedures II	1	2	0	2
MED 3304	Medical Terminology	3	0	0	3	HRC 5401	Unit Clerk Procedures	2	4	0	4
SEC 3404	Typing I	3	2	0	4	HRC 5400	Receptionist Skills	2	4	0	4
HRC 5300	Orientation to Health Record Clerk	<u>2</u>	<u>2</u>	<u>0</u>	<u>3</u>	HRC 5200	Professional Interactions for Health Workers	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
					12						12
Total credit hours .....						24					

# Horticulture (V021)

The purpose of this program is to prepare students for entry level employment in various horticultural businesses such as nurseries, grounds maintenance businesses and landscape firms. Students are trained by the use of classroom demonstrations, laboratory projects and cooperative work experiences. This program emphasizes practical "hands-on" training in the following areas: plant materials, grounds maintenance, nursery procedures, plant propagation, landscape gardening, and turf management.

A student completing this program should be able to fill the following positions: nursery worker, private gardener, nursery and garden center salesperson, greenhouse salesperson, grounds maintenance assistant, grounds-keeper, and landscape worker.

Students completing this program will be awarded a Diploma in Horticulture by the College, and all credit hours can be applied to the Horticulture Technology Degree program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR	COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>						<b>SECOND QUARTER</b>					
BIO 1501	General Botany	3	4	0	5	COM 1304	Intro. to Communications	3	0	0	3
HOR 3503	Nursery Technology	3	4	0	5	HED 1204	First Aid I	1	2	0	2
HOR 3400	Landscape Plants I: Woody	3	2	0	4	HOR 3504	Grounds Maintenance I	3	4	0	5
HOR 3404	Landscape Plants II: Woody and Herbaceous	<u>3</u>	<u>2</u>	<u>0</u>	<u>4</u>	HOR 3302	Landscape Graphics and Measurements	2	2	0	3
					18	PME 5211	Small Engine Repair I	1	3	0	2
						HOR 3111	Horticulture Seminar	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
											16



**THIRD QUARTER**

FIN 3314	Business Mathematics I	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
HOR 3505	Landscape Gardening	3	4	0	5
HOR 3410	Turf Management	2	4	0	4
HOR 3405	Grounds Maintenance II	<u>2</u>	<u>4</u>	<u>0</u>	<u>4</u>
					19

**‡SUGGESTED RELATED ELECTIVES:**

All electives must be approved by program director or program counselor and should be selected from:

ACC 3500	Small Business Accounting
BIO 1500	Biological Science
BIO 2300	Genetics
BIO 2500	Introduction to Entomology
BIO 2504	Selected Topics in Biology
BUS 1400	Introduction to Business
CHM 1500	Introduction to Chemistry
EDP 3404	Microcomputer Programming—BASIC
PME 5214	Small Engine Overhaul
PME 5220	Chain Saw Repair

**FOURTH QUARTER**

HOR 3205	Cooperative Work Experience	0	0	20	2
HOR 4200	Work Experience Seminar	2	0	0	2
HOR 3401	Plant Propagation I	2	4	0	4
‡	Related Electives				4
‡	Technical Electives	—	—	—	<u>4</u>
					16

Total Credit Hours ..... 69

**‡SUGGESTED TECHNICAL ELECTIVES:**

HOR 3202	Home and Yard Horticulture
HOR 3210	Floral Design
HOR 3307	Landscape Your Own Home
HOR 3312	Indoor Plants
HOR 4203	Advanced Floral Design
HOR 4400	Arboriculture
HOR 4404	Plant Propagation II
HOR 4411	Greenhouse Horticulture

## Horticultural Technology (T009)

The Horticultural Technology program includes the study and practical application of many varied subjects in the field of horticulture. It consists of identifying and selecting plant materials, propagating, planting and growing plants; designing basic landscapes, and planting materials at the appropriate places and in the correct manner; properly maintaining plant materials; and managing the nursery, greenhouse and garden center. In addition, skills are developed in designing and building planters, walks, patios, fences and other landscape features. This program is designed to provide students with the knowledge, skills and attitudes that are necessary for independent, creative thinking essential to success in this field.

Graduates of this program find various career opportunities with nurseries, greenhouse operations, garden centers, landscape contractors, landscape maintenance companies and municipal/governmental agencies. The employee is usually required to carry out various responsibilities depending upon the needs of the employer.

Major jobs for which students are prepared include: Entry Level Jobs—garden center worker, greenhouse worker, groundskeeper, landscape construction worker, landscape worker, lawn service worker, nursery worker, plant propagator, salesperson of horticultural and nursery products, and tree pruner; Advanced Level Jobs—greenhouse superintendent, horticultural specialty grower—field, horticultural specialty grower—inside, landscape drafter, landscape gardener, nursery manager.

The Associate in Applied Science Degree—Horticultural Technology will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
HOR 1501 General Botany	3	4	0	5
HOR 3503 Nursery Technology	3	4	0	5
HOR 3400 Landscape Plants I: Woody	3	2	0	4
HOR 3404 Landscape Plants II: Woody and Herbaceous	<u>3</u>	<u>2</u>	<u>0</u>	<u>4</u>
				18

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CoOp /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
COM 1304 Intro. to Communications	3	0	0	3
HED 1204 First Aid I	1	2	0	2
HOR 3504 Grounds Maintenance I	3	4	0	5
HOR 3302 Landscape Graphics and Measurements	2	2	0	3
PME 5211 Small Engine Repair I	1	3	0	2
HOR 3111 Horticulture Seminar	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>
				16

**THIRD QUARTER**

FIN 3314 Business Mathematics I	3	0	0	3
SPH 1300 Oral Communications	3	0	0	3
HOR 3505 Landscape Gardening	3	4	0	5
HOR 3410 Turf Management	2	4	0	4
HOR 3405 Grounds Maintenance II	<u>2</u>	<u>4</u>	<u>0</u>	<u>4</u>
				19

**FIFTH QUARTER**

COM 3505 Communications II	3	0	0	3
CHM 1500 Introductory Chemistry I	3	4	0	5
HOR 4400 Arboriculture	2	4	0	4
BUS 3300 Human Relations in Business	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				15

**SEVENTH QUARTER**

HOR 4404 Plant Propagation II	2	4	0	4
COM 3306 Communications III	3	0	0	3
HOR 3205 Cooperative Work Experience (Co-Op)	0	0	20	2
§ Open Elective	—	—	—	<u>3</u>
				12

Total Credit Hours ..... 108-112

**FOURTH QUARTER**

BIO 2500 Introduction to Entomology	3	4	0	5
HOR 3401 Plant Propagation I	2	4	0	4
HOR 3312 Indoor Plants	2	2	0	3
† Technical Elective	—	—	—	<u>4-5</u>
				16-17

**SIXTH QUARTER**

ACC 3500 Small Business Accounting	5	0	0	5
† General Education Elective	3-5	0	0	3-5
HOR 4411 Greenhouse Horticulture	2	4	0	4
HOR 4200 Work Experience Seminar	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
				14-16

**‡SUGGESTED TECHNICAL ELECTIVES:**

Elective must be approved by program director or program counselor and should be selected from:

EDP 3404 Microcomputer Programming—BASIC	3	2	0	4
BIO 1500 Biological Science	3	4	0	5
BIO 2300 Genetics	3	0	0	3
BIO 2504 Selected Topics in Biology	3	4	0	5
BUS 1400 Introduction to Business	3	2	0	4
MGT 3303 Small Business Management	3	0	0	3
MGT 4330 Supervision	3	0	0	3
HOR 3210 Floral Design	1	2	0	2
HOR 4203 Advanced Floral Design	1	2	0	2
HOR 3202 Home & Yard Horticulture	2	0	0	2
HOR 3307 Landscape Your Own Home	3	0	0	3

†General Education Electives must be selected from the areas of communications, social science and/or humanities.

§Open Elective may be any technical or college transfer course.

## Hotel/Restaurant Management (T025)

This is one of the fastest growing industries in the nation. The Hotel/Restaurant Management program trains individuals for work as supervisors or managers with motels, hotels, restaurants and clubs. Areas of study include front office management, accounting, sales promotion, food and beverage control, personnel management, food preparation, and service.

The Hotel/Restaurant program is designed to equip students with a strong basic knowledge of what happens behind the gleaming facades of hotels, and behind the crystal sparkle of the romantic atmosphere of restaurants. Graduates of this program should be dedicated to serving the public and to making the hotel and restaurant industry a better field in which to work. They fill such positions as general manager, assistant manager, food and beverage manager, sales director, convention manager, executive housekeeper, shift supervisor, and front desk attendant.

The Associate in Applied Science Degree—Hotel/Restaurant Management will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, (704) 373-6721, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows. Students may obtain a course sequence list from the program counselor or department.

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
HRM3300 Introduction to Hotel/ Restaurant Management	3	0	3	HRM4504 Hotel Restaurant Practicum I	3	20	5
ACC 1604 Principles of Accounting I	5	2	6	FSO 4304 Food and Labor Controls	3	0	3
*COM 1304 Introd. to Communications	3	0	3	HRM4300 Hotel Restaurant Marketing	3	0	3
HRM3104 Speaker Seminar I	1	0	1	HRM4301 Housekeeping Procedures	3	0	3
FIN 3314 Business Mathematics I	3	0	3	HRM4505 Hotel Restaurant Practicum II	3	20	5
*FIN 3315 Business Mathematics II	3	0	3	BUS 2304 Business Law I	3	0	3
ECO 3300 Introduction to Economics	3	0	3	EDP 3405 Microcomputer Programming —BASIC	3	2	4
*ACC 3434 Hotel/Restaurant Accounting	3	2	4	HRM4506 Hotel Restaurant Management Practicum III	3	20	5
*COM 3305 Communications II	3	0	3	HRM4302 Hotel Restaurant Management Related Problems	3	0	3
HED 1204 First Aid I	1	2	2	INS 3341 Property and Casualty Insurance <i>OR</i>	3	0	3
MGT 4332 Personnel Management I	3	0	3	INS 3340 Principles of Risk and Insurance			
BUS 3300 Human Relations in Business	3	0	3	SEC 3404 Typing I	3	2	4
FSO 3504 Food Preparation I	2	9	5	SSH 3302 Hotel and Motel Security	3	0	3
SPH 1300 Oral Communications	3	0	3	*HRM 4200 Individual Study	2	0	2
HRM3301 Financial and Legal Aspects of Innkeeping	3	0	3	Electives	—	—	3
SOC 1301 Group Interaction	3	0	3	Total Credit Hours			102
EDN 4201 Color Schemes for Interior Design	1	2	2				

\*Prerequisite required.

## Human Services Associate (T107)

### Child Development Casework and Outreach Interpreter Training

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

The Human Services Associate is a paraprofessional working in a variety of social, community and educational services. The Associate uses the knowledge and understanding of human behavior, group dynamics, and psycho/social processes, coupled with the use of appropriate helping skills, to work effectively with people.

The Human Services program offers three fields of specialization for the Human Services Associate. Each specialization, *CHILD DEVELOPMENT*, *CASEWORK AND OUTREACH*, and *INTERPRETER TRAINING*, offers students a unique two-year program to enable them to work with specialized client populations. Clinical internships in a variety of community agencies enable students to gain specialized experience to parallel the classroom work.

Other programs under the Human Services Division are the Older Adult Program, Fire Protection Technology, and Correctional Science. Please see the index for further information.

For more information or answers to questions, call the program directors, weekdays, 8 a.m.-5 p.m.

373-6764	Child Development
373-6659	Casework and Outreach
373-6829	Interpreter Training

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

To pursue an Associate in Applied Science Degree in Human Services, students must first get the program director's approval. Then students should complete the General Course Requirements, and select and complete courses in a field of specialization: Child Development, Casework and Outreach, or Interpreter Training. Students may obtain a course sequence list from the program counselor or department.



## General Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 3501 Introduction to HSA	5	0	0	5	*HSA 3341 Interpersonal Relationships II	3	0	0	3
*HSA 3502 Interpersonal Relationships I	5	0	0	5	*HSA 4608 Seminar	<u>1</u>	<u>0</u>	<u>15</u>	<u>6</u>
*HSA 3340 Client Group Dynamics	3	0	0	3	*Prerequisite required.				<u>22</u>

## Child Development

With the expansion of child care facilities, public and private child care centers are looking for personnel specially trained in effective care of children.

The Child Development Program in Human Services prepares students with the knowledge and skills to work well with children in various stages of development. The program is based on helping children achieve their full potential. The Associate may work in child development day care centers, Head Start programs, pre-school enrichment centers, hospital pre-school playrooms, public school (teacher aides), and after-school programs.

To earn a degree in Child Development, students should complete 102 credit hours as follows: 22 credit hours of General Course Requirements, 61 credit hours of Course Requirements, and 19 credit hours of General Education Requirements.

## Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*HSA 5501 Child Development	3	0	6	5
*HSA 5500 Practical Problems of Child Care I	3	0	6	5
HSA 3311 Materials and Activities for the Young Child	3	0	0	3
*HSA 4510 Health and Safety of the Young Child	4	0	3	5
HSA 4310 Adult/Child Relations	3	0	0	3
*HSA 4614 Practical Problems of Child Care II	2	0	12	6
*HSA 3503 Introduction to Day Care Administration	3	0	6	5
HSA 3310 The Exceptional Child	3	0	0	3
*HSA 4500 Working with Parents	3	0	6	5
HSA 3312 Education for the Young Child	3	0	0	3
*HSA 3525 Advanced Materials and Activities for the Young Child	5	0	0	5
*HSA 3511 Infant/Toddler Development	3	0	6	5
*HSA 3510 School Age Child Care	3	0	6	5
HSA 3322 Human Sexuality in the Helping Skills	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
*Prerequisite required.				61

## General Education Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
COM 1304 Introd. to Communications	3	0	0	3
COM 3305 Communications II	3	0	0	3
COM 3306 Communications III	3	0	0	3
SOC 1500 Sociology of the Family (or approved substitute)	5	0	0	5
HED 1204 Standard First Aid	1	2	0	2
MUS 1304 Children's Music I	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
Total Credit Hours				19
Total Credit Hours				102

## Casework and Outreach

A variety of community agencies are utilizing paraprofessionals in a number of positions. The Casework and Outreach Associate works primarily with clients in assessing their needs and helping them to attain the services required to fulfill those needs. The Associate may work in social work and welfare facilities, schools, personnel offices, hospitals, neighborhood centers, and special service centers.

To earn a degree in Casework and Outreach, students should complete 102 credit hours as follows: 22 credit hours of General Course Requirements, 31 credit hours of Course Requirements, and 49 credit hours of General Education Requirements. (Students may obtain a course sequence list from the program counselor or department.)

## Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HSA 4511 Introduction to Social Welfare	5	0	0	5
*HSA 3600 Community Organization & Casework Preparation	3	0	9	6
HSA 4301 Helping Relationship: Theory	3	0	0	3
*HSA 3604 Helping Relationship: Technique	3	0	9	6
*HSA 3414 Helping Relationship: Advanced Technique	3	0	3	4
HSA 3421 Helping and Behavioral Stress	4	0	0	4
HSA 3322 Human Sexuality in the Helping Skills	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
*Prerequisite required.				31

## General Education Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
*COM 1304 Intro. to Communications	3	0	0	3
*COM 3305 Communications II	3	0	0	3
*COM 3306 Communications III	3	0	0	3
PSY 2504 General Psychology	5	0	0	5
*PSY 2505 Human Development	5	0	0	5
*PSY 2514 Abnormal Psychology	5	0	0	5
SOC 2514 Introduction to Sociology	5	0	0	5
*SOC 2515 Social Problems	5	0	0	5
HED 1204 Standard First Aid	1	2	0	2
BIO 3600 Basic Health Science	5	2	0	6
SEC 3400 Typing I OR	3	2	0	4
EDP 3310 Microcomputer Operations	2	0	2	3
MED 3304 Medical Terminology and Vocabulary I	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
*Prerequisite required.				49
Total Credit Hours	.....102			

## Interpreter Training

The Interpreter Training program is affiliated with the Southeastern Regional Interpreter Training Consortium and follows the guidelines of the Registry of Interpreters for the Deaf.

The primary purpose of the program is to increase the number of qualified interpreters by upgrading the skills of persons who are now acting as interpreters and by training people who have had no previous experience as interpreters for the deaf.

To earn a degree in Interpreter Training, students should complete 102 credit hours as follows: 22 credit hours of General Course Requirements, 41 credit hours of Course Requirements, 19 credit hours of General Education Requirements, and 20 credit hours of approved electives. (Students may obtain a course sequence list from the program counselor or department.)

## Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HSA 3402 Sign Language I	3	2	0	4
*HSA 3404 Sign Language II	3	2	0	4
*HSA 3405 Interpreting Idioms	3	2	0	4
*HSA 3514 Intro. to Interpreting	2	6	0	5
*HSA 3515 Interpreting II	2	6	0	5
*HSA 3516 Interpreting III	2	6	0	5
*HSA 3517 Sign to Voice Interpreting	2	6	0	5
HSA 4304 Orientation to Deafness	3	0	0	3
HSA 4300 Hearing and Deafness	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				41

## General Education Requirements:

General Education Requirements.					
		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
COURSE TITLE					
*COM 1304	Intro. to Communications	3	0	0	3
*COM 3305	Communications II	3	0	0	3
*COM 3306	Communications III	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
SOC 2514	Introduction to Sociology	<u>5</u>	<u>0</u>	<u>0</u>	<u>5</u>
					19
Electives (to be approved by faculty adviser)					<u>20</u>
Total Credit Hours .....					102
*Prerequisite required.					

## Early Childhood Aide Certificate Program

The Child Development Program also offers an Early Childhood Aide Certificate program to qualify graduates as teacher aides. The Aide Certificate program may be used as credit toward the child development degree, providing an opportunity for career mobility and upgrading.

## Specialized Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
HSA 3311 Materials and Activities for Young Child	3	0	0	3
HSA 5200 Human Relations	2	0	0	2
HSA 5500 Practical Problems of Child Care I	3	6	0	5
HSA 5501 Child Development	3	6	0	5

## General Education Requirement:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
COM 5500 Communications Skills	5	0	0	5

## In-Service Training

The Department of Human Services offers to the community a variety of courses from its regular on-campus programs. Such courses can be brought to a community agency and tailored for the agency's particular needs. An agency interested in a course from the various Human Services programs should contact the appropriate program director.

### Casework and Outreach In-Service

- HSA 3202 Crisis Intervention
- HSA 3322 Human Sexuality in the Helping Skills
- HSA 3323 Legal Aspects of Social Welfare
- \*HSA 3414 Helping Relationship: Advanced Technique
- \*HSA 3415 Helping Relationship: Management Skills
- HSA 3421 Helping and Behavioral Stress
- \*HSA 3600 Community Organization and Casework Preparation
- \*HSA 3604 Helping Relationship: Technique
- HSA 4103 Stress Management
- HSA 4524 Helping Interview I
- \*HSA 4525 Helping Interview II
- HSA 5200 Human Relations
- HSA 5302 Interpersonal and Helping Skills in the Professional Community

### Interpreter Training In-Service

- HSA 3110 Sign Language for Emergency/Medical Personnel
- HSA 3402 Sign Language I
- \*HSA 3404 Sign Language II
- \*HSA 3405 Interpreting Idioms
- HSA 3324 Conversational Sign Language I
- \*HSA 3325 Conversational Sign Language II
- \*HSA 3410 Community Interpreting
- \*HSA 3800 Legal Interpreting

### Child Development In-Service

- HSA 3120 Guidance and Discipline
- HSA 3310 The Exceptional Child
- HSA 3311 Materials and Activities for the Young Child
- HSA 3312 Education of the Young Child
- HSA 3350 Growth and Development of Mothers and Fathers
- HSA 3360 Understanding Adolescence
- HSA 3370 Practical Problems in Family Living
- HSA 3380 The Growing Child
- \*HSA 3503 Introduction to Day Care Administration
- \*HSA 3510 The Exceptional Child
- \*HSA 3511 Infant/Toddler Development
- \*HSA 3525 Advanced Materials and Activities for the Young Child
- \*HSA 3534 Advanced Day Care Administration
- HSA 4310 Adult/Child Relations
- \*HSA 4500 Working with Parents
- \*HSA 4510 Health and Safety of the Young Child
- \*HSA 4614 Practical Problems of Child Care II
- \*HSA 5500 Practical Problems of Child Care I
- \*HSA 5501 Child Development

\*Prerequisite required

## CDA Training

In addition to the regular curriculum, the Child Development program is able to provide training toward the Child Development Associate Credential, a competency based credential. The training package, entitled CDA I-VII, is designed to provide twenty-three weekly hours of individualized assistance to groups of people preparing for the official credentializing procedure established by the Office of Child Development in Washington. For additional information contact the Child Development program director.

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>HSA 5510 CDA I — Setting Up and Maintaining a Healthy Living Environment</li> <li>HSA 5511 CDA II — Advancing Physical and Intellectual Competence</li> <li>HSA 5512 CDA III — Building Positive Self Concept and Individual Strength</li> <li>HSA 5513 CDA IV — Organizing and Sustaining the Positive Functioning of Children and Adults in a Group in a Learning Environment</li> </ul> | <ul style="list-style-type: none"> <li>HSA 5514 CDA V — Bringing About Optimal Coordination of Home and Other Child-Rearing Practices and Expectations</li> <li>HSA 5515 CDA VI — Carrying Out Supplementary Responsibilities Related to the Children's Programs</li> <li>HSA 5516 CDA VII — Portfolio Development</li> </ul> |
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# Industrial Safety, Health, Security and Investigations (T153)

## Safety Security Investigations

*CPCC has a transfer agreement for this program with Pfeiffer College.*

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Industrial Safety, Health, Security and Investigations are rapidly emerging as unique fields of study. They are developing concurrently with such occupational fields as fire science, law enforcement and similar programs. The rising crime rate and the attention focused on the protection of workers by implementation of the Occupational Safety and Health Act, Toxic Substance Control Act, Consumer Products Safety Act, and numerous other federal and state laws have generated an unprecedented rise in the demand for fully qualified personnel in these fields.

This program emphasizes three specialty areas. In the future, persons will be needed who are trained in these compatible and often overlapping disciplines. This training provides industry, government and employers at all levels with a pool of individuals capable of leading programs in safety, health, security and investigations.

It is estimated that fewer than ten percent of potential employers of this group have adequate programs at the present time. As regulations are more stringently enforced, an ever increasing number of qualified employees for industrial safety, health, security and investigations will be required.

This program is intended to prepare individuals who will be employed or involved in the fields of industrial safety, health, security and investigations to meet needs in many different situations. It provides students with a well-rounded educational background in preparation for a professional career or further study. Classes are scheduled both day and evening. The Associate in Applied Science Degree—Industrial Safety, Health, Security and Investigations will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6420 weekdays 8 a.m.-6 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

### Core Technical Courses:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
SSH	3500	Introduction to Loss Prevention	5	0	5
PSC	3510	Criminal Law	5	0	5
PSC	4501	Constitutional Law	5	0	5
SSH	4510	Principles of Interviewing and Interrogation	5	0	5
LEX	4321	Tort Law	3	0	3
PSC	3504	Crime Scene Technology	4	2	5
SSH	3301	Principles of Industrial Management	3	0	3
PSC	4505	Criminal Investigation	5	0	5
PSC	4520	Public Relations	5	0	5
		Technical Electives	—	—	10
					51

### General Course Requirements:

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*COM	1304	Introduction to Communication	3	0	3
*COM	3305	Communications II <b>OR</b>			
*COM	1305	English Composition II	3	0	3
*COM	3306	Communications III <b>OR</b>			
*COM	1306	English Composition III	3	0	3
SPH	1301	Persuasive Speaking	3	0	3
		Any courses selected from the following prefixes: POL, SOC, SPH, LIT, MAT, LAN, HUM, HIS, PSY			
*Prerequisite required.			—	—	6
					18

**Safety**

To earn a degree in Safety, students should complete 104 credit hours as follows: 51 credit hours of Core Technical Courses, 18 credit hours of General Education Courses, and 35 credit hours of Required Courses. (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS		
	CLS	LAB	CR/
	/WK	/WK	QTR
EDP 3300 Intro. to Computer Concepts	3	0	3
SSH 4511 Nuclear Safety	5	0	5
SSH 3501 Intro. to Principles of Safety	4	2	5
SSH 3504 Occupational Safety and Health I	4	2	5
FIP 4304 Arson Detection & Investigation	3	2	4
SSH 4304 Special Problems in Industrial Safety	2	2	3
SSH 4501 Industrial Hygiene & Toxicology	4	2	5
*SSH 3505 Occupational Safety and Health II	<u>4</u>	<u>2</u>	<u>5</u>
			35

\*Prerequisite required.

**Investigations**

To earn a degree in Investigations, students should complete 108 credit hours as follows: 51 credit hours of Core Technical Courses, 18 credit hours of General Course Requirements, and 39 credit hours of Required Courses. (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS		
	CLS	LAB	CR/
	/WK	/WK	QTR
SSH 4515 Executive Protection and Terrorism	5	0	5
PSC 4504 Criminal Procedures and Rules of Evidence	5	0	5
*PSC 4506 Advanced Crime Scene Technology	4	2	5
*†SSH 4290 Cooperative Education I	0	20	2
*†SSH 4291 Cooperative Education II	0	20	2
SSH 4514 Electronics for Security	5	0	5
SSH 4513 Computer Security	5	0	5
BUS 1400 Introduction to Business	3	2	4
INS 3341 Property and Casualty Insurance	3	0	3
BUS 2304 Business Law I	<u>3</u>	<u>0</u>	<u>3</u>
			39

†Suggested for those applying for Private Detective License, elective for others.

\*Prerequisite required.

**Security**

To earn a degree in Security, students should complete 105 credit hours as follows: 51 credit hours of Core Technical Courses, 18 credit hours of General Course Requirements, and 26 credit hours of Required Courses. (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS		
	CLS	LAB	CR/
	/WK	/WK	QTR
EDP 3300 Intro. to Computer Concepts	3	0	3
SSH 4512 Nuclear Security	5	0	5
SSH 4513 Computer Security	5	0	5
SSH 3304 Access Controls and Loss Prevention	3	0	3
SSH 3503 Retail Security	5	0	5
SSH 4514 Electronics for Security	5	0	5
SSH 4504 Security Problems and Practices I	5	0	5
*PSC 4506 Advanced Crime Scene Technology	<u>4</u>	<u>2</u>	<u>5</u>
			36

\*Prerequisite required.

**Recommended Electives:**

Any course in the following programs: Police Science Program (PSC), Insurance Program (INS), Paralegal Technician Program (LEX).

**ADDITIONAL APPROVED LIST OF ELECTIVES:**

ACC 1604 Principles of Accounting I
BIO 1500 Biological Science
BUS 1400 Introduction to Business
BUS 2304 Business Law I
*BUS 2305 Business Law II
*CHM 1504 General Chemistry I
EDP 3300 Introduction to Computer Concepts
HED 1100 Health Education I
HED 1201 Special Health Problems
HED 1204 First Aid I
*HED 1205 First Aid II
*MAT 2514 Statistics I
*PHY 1404 Introduction to Physics I: Basic Mechanics
*PHY 2504 General Physics I: Mechanics
PSC 4310 Self Defense and Weaponry
SEC 3404 Typing I
SSH 3302 Hotel and Motel Security
SSH 3304 Access Controls and Loss Prevention
SSH 3503 Retail Security
VCO 3304 Photography I

# Insurance Technology (T128)

## Claims

## General Insurance

## Mid-Management

## Sales

There are presently over 900 insurance companies licensed to sell one or more types of insurance in North Carolina. Premiums written in North Carolina increased 187 percent between 1970 and 1980 while benefit payments increased 216 percent for the same period.

It is estimated that some 72,500 persons are employed full- and part-time by the industry in North Carolina. Approximately 50,000 of these are active licensed agents and adjusters. This program is designed to equip the graduate with a strong basic product knowledge and the skills necessary to enter the industry.

The Insurance Technology program provides training for the clerical, rating, sales, adjusting and management phases of the insurance industry. It is designed to train students in the three fields of private insurance: life; accident and health; property and liability. It assists students entering the field to become integral parts of this service industry.

The Associate in Applied Science Degree—Insurance Technology, an Insurance Diploma, or an Insurance Certificate will be awarded upon completion of the requirements listed below:

### Associate in Applied Science in Insurance Technology

To complete this program, all of the following general education courses and core technical courses must be taken. (Students may obtain a course sequence list from the program counselor or department.)

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested course sequence:

#### General Education Courses

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 3300 Human Relations	3	0	3
*COM 1304 Intro. to Communications	3	0	3
COM 3515 Advanced Grammar	3	0	3
SOC 1301 Group Interaction	3	0	3
SPH 1301 Persuasive Speaking	3	0	3
Elective/Social Science	<u>3</u>	<u>0</u>	<u>3</u>
			18

\*Prerequisite required.

#### Core Technical Courses

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC 1604 Principles of Accounting	5	2	6
BUS 1400 Introduction to Business	3	2	4
BUS 2304 Business Law I	3	0	3
*BUS 2305 Business Law II	3	0	3
ECO 3300 Introduction to Economics	3	0	3
EDP 3300 Intro. to Computer Concepts	3	0	3
FIN 3314 Business Math I	3	0	3
INS 3340 Principles of Risk & Insurance	3	0	3
INS 3341 Property and Liability Insurance	3	0	3
INS 3342 Life and Health Insurance	3	0	3
*INS 4354 Professional Ethics	3	0	3
SEC 3326 Insurance Terms and Vocabulary	3	0	3
SEC 3304 Office Machines	2	2	3
SEC 3426 Insurance Office Skills	3	2	4
SEC 3404 Typing I	<u>3</u>	<u>2</u>	<u>4</u>
			51



## 70 Career Programs

In addition, students must select ONE of the following specialties to complete the Associate in Applied Science Degree:

### General Insurance Clerical Specialist

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 4364	Budget and Recordkeeping	3	0	3
*BUS 2306	Business Law III	3	0	3
EDP 3310	Microcomputer Operations	2	2	3
INS 4364	General Rating	3	0	3
*INS 4384	Insurance Law	3	0	3
*MGT 2314	Business Management	3	0	3
*SEC 3405	Typing II	3	2	4
*SEC 3406	Typing III	3	2	4
SEC 3414	Shorthand I	3	2	4
*SEC 4305	Business Communications	3	0	3
SEC 43__	Typing Insurance Simulation	2	2	3
SEC 4326	Insurance Office Problems	3	0	3
*SEC 4426	Word Processing and Machine Transcription	3	2	4
			<u>43</u>	

### Mid-Management Specialist

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*ACC 1605	Accounting II	5	2	6
*BUS 2306	Business Law III	3	0	3
BUS 4303	Labor Law	3	0	3
EDP 3310	Microcomputer Operations	2	2	3
INS 4294	General Insurance Part I—Intro.	2	0	2
*INS 4295	General Ins. Part II—L.A.&H.	2	0	2
*INS 4296	General Ins. Part III—F.&C.	2	0	2
INS 4384	Insurance Law	3	0	3
*MGT 2314	Business Management	3	0	3
MGT 4330	Supervision	3	0	3
MGT 4332	Personnel Management I	3	0	3
*MGT 4334	Management Seminar	3	0	3
*MKT 4306	Sales Management	3	0	3
*SEC 4305	Business Communications	3	0	3
			<u>42</u>	

### Rate Clerk Specialty

*ACC 1605	Accounting II	5	2	6
*BUS 3304	Business Statistics	3	0	3
*FIN 3315	Business Mathematics II	3	0	3
INS 4361	Auto and Comm. Auto Rating	3	0	3
INS 4362	Fire, Dwelling & H.O. Rating	3	0	3
INS 4363	Business Owners' Rating	3	0	3
INS 4370	General Liability & SMP Rating	3	0	3
INS 4371	Workers' Compensation Rating	3	0	3
MAT 1500	Mathematics for Modern Living	5	0	5
*SEC 3405	Typing II	3	2	4
*SEC 4305	Business Communications	3	0	3
			<u>39</u>	

### Claims Specialist

AUB 5203	Auto Body Damage Estimating	2	0	2
INS 4294	General Insurance Part I—Intro.	2	0	2
*INS 4296	Gen. Ins. Part III—Fire & Cas.	2	0	2
*INS 4297	Gen. Ins. Part IV—Adjusting	2	0	2
*INS 4384	Insurance Law	3	0	3
*INS 4394	Claims Settlement	3	0	3
LEX 3310	North Carolina Legal Systems	2	2	3
LEX 3320	Evidence	3	0	3
LEX 4321	Tort Law	3	0	3
*LEX 4332	Trial Preparation & Proceedings	3	0	3
LEX 4341	Workers' Compensation Law	3	0	3
LEX 4361	Interpreting Medical Reports	3	0	3
*LEX 4431	Interview and Investigation	3	2	4
PSC 3303	Motor Vehicle Laws of N.C.	3	0	3
TRN 4351	Freight Claims	3	0	3
			<u>42</u>	

### Sales Specialty

*BUS 2306	Business Law III	3	0	3
EDP 3310	Microcomputer Operations	2	2	3
INS 4294	General Insurance Part I—Intro.	2	0	2
*INS 4295	General Ins. Part II—L.A. & H.	2	0	2
*INS 4296	General Ins. Part III—F. & C.	2	0	2
INS 4364	General Rating	3	0	3
*INS 4384	Insurance Law	3	0	3
*LEX 4430	Wills, Trusts and Probate <i>OR</i>	3	2	4
*INS 3354	Fire Insurance	3	0	3
LEX 4352	Preparing Estate Planners <i>OR</i>	3	0	3
*INS 3355	Casualty Insurance	3	0	3
LEX 4361	Interpreting Medical Reports	3	0	3
MKT 1304	Marketing I	3	0	3
*MKT 1305	Marketing II	3	0	3
*MKT 3320	Fundamentals of Selling	3	0	3
*MKT 4306	Sales Management	3	0	3
*SEC 4305	Business Communications	3	0	3
			<u>49</u>	

\*Prerequisite required.

## Diploma Program

The purpose of this 65 credit hour diploma program is to prepare students for entry level employment in various aspects of the insurance industry. The program of study includes classes in English grammar, insurance terminology, insurance law and ethics. Students completing this program will receive a Diploma in Insurance. (Students may obtain a course sequence list from the program counselor or department.)

## General College Courses

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*COM 1304 Introd. to Communications	3	0	3
COM 3515 Advanced Grammar	5	0	5
SOC 1301 Group Interaction	3	0	3
SPH 1301 Persuasive Speaking	3	0	3
	<u>3</u>	<u>0</u>	<u>3</u>
*Prerequisite required.			14

## Technical Courses

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 1400 Introduction to Business	3	2	4
BUS 2304 Business Law I	3	0	3
EDP 3300 Intro. to Computer Concepts	3	0	3
FIN 3314 Business Mathematics I	3	0	3
INS 3340 Principles of Risk & Insurance	3	0	3
INS 3341 Property and Liability Insurance	3	0	3
INS 3342 Life and Health Insurance	3	0	3
*INS 4294 General Insurance Part I—Intro.	2	0	2
*INS 4295 General Ins. Part II—L.A. & H.	2	0	2
*INS 4296 General Ins. Part III—F. & C.	2	0	2
*INS 4354 Professional Ethics	3	0	3
INS 4364 General Rating	3	0	3
*INS 4384 Insurance Law	3	0	3
SEC 3326 Ins. Terminology & Vocabulary	3	0	3
*SEC 3304 Office Machines	2	2	3
SEC 3426 Insurance Office Skills	3	2	4
SEC 3404 Typing I	3	2	4
	<u>3</u>	<u>2</u>	<u>4</u>
			51

## Insurance Certificate

This 18 credit hour program provides the opportunity for students to gain an understanding of the terminology and principles essential for entry level clerical positions in the insurance industry.

Certificate will be awarded upon successful completion of the program.

BUS 1400 Introduction to Business	3	2	4	SEC 3404 Typing I	3	2	4
SEC 3326 Ins. Terminology & Vocabulary	3	0	3	SOC 1301 Group Interaction	3	0	3
SEC 3426 Insurance Office Skills	3	2	4				18

## North Carolina Agents and Adjusters Licensing

In addition to the Degree, Diploma and Certificate, the Insurance Technology program offers the Insurance Agents and Adjusters Licensing courses which waive the State examination administered by the North Carolina Department of Insurance. For further information, contact the CPCC Insurance Institute.

## CLU, ChFC and FLMI Training

The Insurance Technology program offers courses to prepare students for the national examinations administered by the American College leading to a CLU and ChFC designation, also the Life Office Manager's Association leading to the FLMI designation. For further information contact the CPCC Insurance Institute.

## Machinist (V032)

Machinists are skilled workers who transform a block of metal into an intricate part. They are able to set up and operate precise machine tools in a modern shop. Machinists are able to select materials required for each job, and plan the cutting and finishing operations in sequence so the work can be finished according to blueprints or written specifications.

Machinists make computations relating to dimensions of work, tooling, feeds, and speeds of machining. Costly precision measuring instruments are used to determine the accuracy of work. They must also know the characteristics of various metals so that annealing and proper hardening can be accomplished.

In addition to the skills listed above, Machinist students at CPCC learn to write basic programs for computer numerical control (CNC) machines. The CPCC machine shop has engine lathes, milling, drilling, grinding, and CNC training equipment.

A Diploma is awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6919 weekdays 8 a.m.-6 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>							<b>SECOND QUARTER</b>						
MAC 5200	Precision Instrument Reading			2	0	2	MAC 5300	Introduction to Numerical					
MAC 5301	Blueprint Reading for Machinists I			3	0	3	MAC 5302	Control Programming			3	0	3
MAC 5311	Basic Lathe Operations			1	6	3	MAC 5313	Blueprint Reading for Machinists II			3	0	3
MAC 5401	Calculations for Machinists I			4	0	4	MAC 5313	Layout, Hand Tool, and Drill Press Procedures			1	6	3
MAC 5422	Basic Milling Operations			2	6	4	MAC 5320	Calculations for Machinists II			3	0	3
MEC 5214	Practical Metallurgy			<u>1</u>	<u>3</u>	<u>2</u>	MAC 5424	Grinding Machine Operations			2	6	4
						18	MEC 5215	Practical Metallurgy II			<u>1</u>	<u>3</u>	<u>2</u>
													18
<b>THIRD QUARTER</b>							<b>FOURTH QUARTER</b>						
MAC 5304	Computer Numerical Control Programming I			2	2	3	MAC 5305	Computer Numerical Control Programming II			2	2	3
MAC 5315	General Machining and Maintenance			1	6	3	MAC 5307	Machine Tool Application I			0	9	3
COM 5500	Communication Skills			5	0	5	MAC 5308	Machine Tool Application II			0	9	3
PHY 5304	Shop Science I			2	2	3	HSA 5200	Human Relations			2	0	2
WLD 5210	Basic Oxyacetylene Welding			<u>1</u>	<u>3</u>	<u>2</u>	PHY 5305	Shop Science II			2	2	3
						16		Elective			—	—	3
													17
							Total Credit Hours .....						69
							<b>RECOMMENDED ELECTIVES</b>						
							DFT 3404	Technical Drafting			2	6	4
							HED 1204	First Aid I			1	2	2
							MAT 3504	Technical Mathematics I			5	0	5
							PME 5214	Small Engine Overhaul			1	3	2
							WLD 5220	Basic Electric Arc Welding			1	3	2
							WLD 5250	Basic Gas Metal Arc Welding			1	3	2

## Manufacturing Engineering Technology (T050)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Manufacturing Engineering Technology involves the planning of manufacturing methods, the design and practical application of tools, equipment and processes of manufacturing. Manufacturing Engineering Technicians are concerned with the planning, development and optimization of production processes.

The Manufacturing Engineering Technology program is comprehensive, providing a basic background in the practical application of both fundamental and highly specialized manufacturing engineering technology principles. Courses in drafting and mechanical engineering technology complemented by mathematics, physics and communications, furnish students with progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized manufacturing, industrial and mechanical engineering technology courses that provide concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology manufacturing industry, including robotics/automation and Computer-Aided Drafting/Computer-Aided Manufacturing.

The program is designed to produce manufacturing engineering technicians skilled in assisting large and small industry in the planning of production processes and equipment, tooling, production of material goods, product and tool design, die design, time and motion study, plant layout, materials handling, inspection and quality



control, robotics/automation, and CAD/CAM. Manufacturing Engineering Technology is similar to Industrial Engineering Technology, however, the manufacturing program places more emphasis on the process selection and methods of converting engineering design to finished products, and less on industrial organization, management, statistics and accounting.

In our rapidly advancing high technology society with vast industrial expansion, including robotics/automation applications, the employment outlook in this region for graduates in Manufacturing Engineering Technology is excellent. Many of these occupations are closely related to management in industry and can provide rewarding careers. In recent years, the local demand for engineering technicians has exceeded the supply, causing expanding industries to import technicians from other areas of the country. Graduates may also continue study for two or more years at a senior institution offering Bachelor of Engineering Technology (BET) programs.

The Associate in Applied Science Degree—Manufacturing Engineering Technology will be awarded by the College upon completion of this program

For more information or answers to questions, call the program counselor at (704) 373-6881, the Manufacturing Engineering program director at (704) 373-6553, or the Technology Division head at (704) 373-6557, weekdays, 8 a.m.-5 p.m..

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>			
COM 1304 Introd. to Communications	3	0	3
MAT 3507 Engineering Technology Math I	5	0	5
DFT 3404 Mechanical Drafting I	2	6	4
MAC 3201 Machine Operations	1	3	2
MEC 3101 Mechanical/Manufacturing Seminar	1	0	1
† General Education Elective	3	0	3
			18

<b>THIRD QUARTER</b>			
COM 3305 Communications II	3	0	3
MAT 3509 Engineering Technology Math III	5	0	5
PHY 1405 Physics II: Elastic and Thermal Properties of Matter	3	2	4
MEC 3305 Machine Processes II	2	3	3
ISC 4304 Production Planning	2	3	3
			18

<b>FIFTH QUARTER</b>			
SPH 1300 Oral Communications	3	0	3
MEC 4434 Hydraulics and Pneumatics	2	6	4
MEC 4515 Physical Metallurgy II	4	3	5
ISC 4404 Plant Layout and Materials Handling	2	6	4
† Technical Elective	3	0	3
			19

\*General Education Electives must be chosen from the areas of communications, social science and/or humanities.

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>			
EDP 3405 Microcomputer Programming—BASIC		3	2
MAT 3508 Engineering Technology Math II	5	0	5
PHY 1404 Physics I: Basic Mechanics	3	2	4
DFT 3405 Mechanical Drafting II	2	6	4
MEC 3304 Machine Processes I	2	3	3
			20

<b>FOURTH QUARTER</b>			
COM 3306 Communications III	3	0	3
PHY 2406 Physics III: Electricity and Magnetism	3	2	4
MEC 4304 Compound Angles	2	3	3
MEC 4514 Physical Metallurgy I	4	3	5
ISC 4400 Time and Motion Study	2	6	4
			19

<b>SIXTH QUARTER</b>			
ISC 4314 Inspection and Quality Control	2	3	3
ISC 4405 Process Planning	2	6	4
MEC 4405 Tool and Die Design	2	6	4
MEC 4327 Microcomputer Applications Project	1	6	3
† General Education Elective	3	0	3
† Technical Elective	3	0	3
			20

Total Credit Hours ..... 114

†Recommended Technical Electives:

- DFT 3314 Computer Assisted Drafting (CAD): Mechanical
- EDP 3406 Microcomputer Programming—Advanced BASIC
- ELN 4337 Microcomputer Applications in Robotics
- ELN 4337 Industrial Programmable Controllers
- ELN 4525 Electrical Machines I
- ISC 3314 Computer-Aided-Manufacturing (CAM)
- ISC 4407 Introduction to Robotics
- MEC 4324 Mechanics of Materials
- MEC 4425 Thermodynamics
- MEC 4405 Mechanisms
- MEC 4508 Applied Mechanics
- MEC 4604 Machine Design

*Manufacturing Engineering Technology is an ABET accredited program at CPCC.*

# Marketing and Retailing (T020)

## Fashion Merchandising

### Sales

### Supermarket

Middle management positions in marketing and retailing should open for graduates of this program. Courses focus on techniques of marketing, merchandising management, supermarket management, selling, advertising, retailing, and credit and collection procedures. Case studies, simulation, role playing, cooperative experience and research are an integral part of the program.

Depending on the specialization chosen, this program leads to an array of marketing and distribution jobs such as display person, general salesperson, assistant buyer, junior executive, and trainee manager. With experience and additional education, graduates may enter such jobs as advertising manager, account executive, display manager, supermarket manager, store manager, buyer, purchasing manager, and merchandise manager.

The Associate in Applied Science Degree—Marketing and Retailing will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, 373-6873, weekdays, 8 a.m.-6 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

To complete an Associate in Applied Science Degree in Marketing and Retailing, students must complete the General Course Requirements (64 credit hours), and select and complete courses in a field of specialization: Fashion Merchandising, Sales, or Supermarket. Students may obtain a course requirement sequence list from the program counselor or department.

#### General Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 1400 Introduction to Business	3	2	4
*COM1304 Introd. to Communications	3	0	3
*COM3305 Communications II	3	0	3
*COM3306 Communications III	3	0	3
BUS 3300 Human Relations in Business	3	0	3
†FIN 3314 Business Mathematics I	3	0	3
*†FIN 3315 Business Mathematics II	3	0	3
SPH 1300 Oral Communications	3	0	3
ECO 2304 Economics I	3	0	3
*ECO 2305 Economics II	3	0	3
ACC 1604 Accounting I	5	2	6
*ACC 1605 Accounting II	5	2	6
†MKT 1304 Marketing I	3	0	3
*†MKT 1305 Marketing II	3	0	3
*BUS 3304 Business Statistics	3	0	3
BUS 2304 Business Law I	3	0	3
*BUS 2305 Business Law II	3	0	3
INS 3340 Principles of Risk & Insurance	3	0	3
EDP 3310 Microcomputer Operations	2	2	3
			64

†MAT 1504, MAT 1505 or MAT 1514, MAT 1515 may be taken if student has met requirements

‡MAT 2514 may be taken if student has met requirements.

\*Prerequisite required.

#### Fashion Merchandising

To earn a Degree in Marketing and Retailing—Fashion Merchandising, students should complete 105 credit hours as follows: 64 credit hours of General Course Requirements and 41 hours of Required Courses. (Students may obtain a course sequence list from the program counselor or department.)

#### Course Requirements:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MKT 4320 Retailing	2	2	3
MGT 4330 Supervision	3	0	3
SSH 3503 Retail Security	3	0	3
*MKT 3314 Applied Retail Calculations	3	0	3
MKT 3330 Introduction to Textiles	3	0	3
MKT 4340 Department Store Merchandising	3	0	3
*MKT 4354 Display and Design	3	0	3
MKT 3320 Fundamentals of Selling	3	0	3
BUS 4340 Consumer Credit	3	0	3
§MKT 3200 Cooperative Education Orientation	2	0	2
§MKT 3204 Cooperative Education I	0	20	2
§MKT 3205 Cooperative Education II	0	20	2
§MKT 3206 Cooperative Education III	0	20	2
*MKT 4305 Advanced Selling Skills	3	0	3
MKT 4321 Advertising	3	0	3
			41

§Or 8 hours of electives.

\*Prerequisite required.

## Sales

To earn a Degree in Marketing and Retailing—Sales, students should complete 106 credit hours as follows: 64 credit hours of General Course Requirements and 42 credit hours of Course Requirements. (Students may obtain a course sequence list from the program counselor or department.)

### Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
COURSE TITLE				
SPH 1301	Persuasive Speaking	3	0	3
MGT 4330	Supervision	3	0	3
MKT 3320	Fundamentals of Selling	3	0	3
*MKT 4305	Advanced Selling Skills	3	0	3
*MKT 4325	Sales Management	3	0	3
MKT 4320	Retailing	2	2	3
MKT 4321	Advertising	3	0	3
MKT 4322	Purchasing	3	0	3
*MKT 4355	Channels of Distribution	3	0	3
EDP 3405	Microcomputer Programming— BASIC	3	2	4
BUS 4340	Commercial Credit	3	0	3
§MKT 3200	Cooperative Education Orientation	2	0	2
§MKT 3204	Cooperative Education I	0	20	2
§MKT 3205	Cooperative Education II	0	20	2
§MKT 3206	Cooperative Education III	0	20	2
				42

§Or 8 hours of electives.

\*Prerequisite required.

## Supermarket

To earn a Degree in Marketing and Retailing—Supermarket, students should complete 109 credit hours as follows: 64 credit hours of General Course Requirements and 45 credit hours of Course Requirements. (Students may obtain a course sequence list from the program counselor or department.)

### Course Requirements:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
COURSE TITLE				
MKT 4320	Retailing	2	2	3
MGT 4330	Supervision	3	0	3
*MKT 3314	Applied Retail Calculations	3	0	3
MKT 4360	Supermarketing I	3	0	3
*MKT 4364	Supermarketing II	3	0	3
MKT 4365	Supermarket Law	3	0	3
*MKT 4374	Food Merchandising	3	0	3
*MKT 4384	Customer Relations	3	0	3
SSH 3503	Retail Security	3	0	3
MKT 3320	Fundamentals of Selling	3	0	3
MKT 4321	Advertising	3	0	3
EDP 3405	Microcomputer Program- ming—BASIC	3	2	4
§MKT 3200	Cooperative Education Orientation	2	0	2
*§MKT 3204	Cooperative Education I	0	20	2
*§MKT 3205	Cooperative Education II	0	20	2
*§MKT 3206	Cooperative Education III	0	20	2
				45

§Or 8 hours of electives.

\*Prerequisite required.

# Mechanical Drafting (V017)

Mechanical Drafting involves the preparation of clear, complete and accurate working drawings for manufacturing or engineering purposes. Mechanical drafters are concerned with detailing and/or layout design from specifications, rough or detailed sketches, engineering notes and other design information. They develop drawings of a section, sub-assembly or major component. Investigating design factors and the availability of material, equipment, production methods and facilities are frequent assignments. They may assist in the design of units and controls from specifications by utilizing drawings of existing units, and reports on functional performance.

The Mechanical Drafting program is comprehensive, and is designed to prepare students to enter the field of mechanical drafting. The mechanical drafting program places emphasis on the ability to think and plan on all projects, as well as on drafting procedures and techniques.

Courses in mechanical drafting, computer-aided-drafting (CAD), engineering materials, machine processes, and practical metallurgy—complemented by mathematics, communication and physics—are arranged in sequence to develop progressive levels of job-related skills and knowledge. Drafters associate with many levels of industrial personnel—engineers, architects, engineering technicians, administrators, and skilled craftpersons—and must be able to communicate effectively.

A Diploma in Mechanical Drafting will be awarded by the College upon completion of this program. Students may apply appropriate courses in the Mechanical Drafting program toward the Mechanical Engineering Technology program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*



Suggested sequence of required courses:

COURSE TITLE	HRS	HRS	HRS
	CLS	LAB	CR/
	/WK	/WK	QTR
<b>FIRST QUARTER</b>			
COM 5500 Communication Skills I	5	0	5
MAT 5304 Basic Math I	3	0	3
DFT 3404 Mechanical Drafting I	2	6	4
MEC 3201 Machine Operations	1	3	2
MEC 3101 Mechanical/Manufacturing Seminar	1	0	1
	12	9	15
<b>THIRD QUARTER</b>			
PHY 5305 Shop Science II	2	2	3
DFT 3405 Descriptive Geometry	2	6	4
DFT 3507 Mechanical Drafting III	2	9	5
MEC 3307 Engineering Materials	2	2	3
MEC 3405 Machine Processes II	2	3	3
	10	22	18

COURSE TITLE	HRS	HRS	HRS
	CLS	LAB	CR/
	/WK	/WK	QTR
<b>SECOND QUARTER</b>			
COM 1304 Introd. to Communications	3	0	3
MAT 5305 Basic Math II	3	0	3
PHY 5304 Shop Science I	2	2	3
DFT 3405 Mechanical Drafting II	2	6	4
MEC 3404 Machine Processes I	2	3	3
§ General Education Elective	3	0	3
	15	11	19
<b>FOURTH QUARTER</b>			
BUS 3300 Human Relations in Business	3	0	3
DFT 3508 Mechanical Drafting IV	2	9	5
MEC 5214 Practical Metallurgy I	1	3	2
† Technical Elective			4
† Technical Elective			4
	6	12	18

Total Credit Hours ..... 70

§ General Education Elective must be selected from the areas of communication, social science or humanities.

† Recommended Technical Electives:

DFT 3314 Computer-Aided Drafting (CAD)—Mechanical

DFT 3400 Electrical/Electronics Drafting

EDP 3405 Microcomputer Programming—BASIC

DFT 4300 Mechanical Blueprint Reading

ISC 4314 Inspection and Quality Control

ISC 4404 Plant Layout and Materials Handling

MEC 4434 Hydraulics and Pneumatics

NOTE: 3000 and 4000 technical level courses may be substituted for 5000 level courses.

## Mechanical Engineering Technology (T051)

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Mechanical Engineering Technology involves the practical applications of tool and machine design, manufacturing processes and techniques, and the transfer of mechanical forms of energy. The mechanical engineering technician is concerned with drafting, design, development, production, testing, operation and/or maintenance of mechanical components, machines and systems associated with today's products, processes or services.

The Mechanical Engineering Technology program is comprehensive, providing a basic background in the practical application of both fundamental and highly specialized mechanical engineering technology principles. Courses in drafting and mechanical engineering technology, complemented by mathematics, physics and communications give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized mechanical engineering technology courses that furnish concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology industry, including CAD/CAM and robotics/automation.

This program is designed to produce mechanical engineering technicians skilled in assisting large and small industry in drafting, product design, tool and die design, machine design, metallurgy, application of hydraulics and pneumatics, planning machine processes, CAD/CAM, robotics/automation, and the use of the computer as a problem solving tool.

In our rapidly advancing high technology society, particularly the vast industrial expansion of this region, the employment outlook for graduates is excellent. Many of these occupations are closely related to management in

industry and can provide rewarding careers. In recent years, the local demand for mechanical engineering technicians has exceeded the supply, causing expanding industries to import technicians from other areas of the country. Graduates may also continue study for two or more years at a senior institution offering Bachelor of Engineering Technology (BET) programs.

The Associate in Applied Science Degree—Mechanical Engineering Technology will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program counselor at (704) 373-6881, the Mechanical Engineering Technology program director at (704) 373-6553, or the Technology

Division head at (704) 373-6557, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR	COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>						<b>SECOND QUARTER</b>					
COM 1304	Introd. to Communications		3	0	3	EDP 3405	Microcomputer Programming— BASIC		3	2	4
MAT 3507	Engineering Technology Math I		5	0	5	MAT 3508	Engineering Technology Math II		5	0	5
DFT 3404	Mechanical Drafting I		2	6	4	PHY 1404	Physics I: Basic Mechanics		3	2	4
MAC 3201	Machine Operations		1	3	2	DFT 3405	Mechanical Drafting II		2	6	4
MEC 3101	Mechanical/Manufacturing Seminar		1	0	1	MEC 3304	Machine Processes I		2	3	3
†	General Education Elective		—	—	3						20
					18						
<b>THIRD QUARTER</b>						<b>FOURTH QUARTER</b>					
COM 3305	Communications II		3	0	3	COM 3306	Communications III		3	0	3
MAT 3509	Engineering Technical Math III		5	0	5	PHY 1406	Physics III: Electricity and Magnetism		3	2	4
PHY 1405	Physics II: Elastic and Thermal Properties of Matter		3	2	4	MEC 4508	Applied Mechanics		3	6	5
DFT 3406	Descriptive Geometry		2	6	4	MEC 4515	Physical Metallurgy I		4	3	5
MEC 3305	Machine Processes II		2	3	3	†	General Education Elective		3	0	3
					19						20
<b>FIFTH QUARTER</b>						<b>SIXTH QUARTER</b>					
SPH 1300	Oral Communications		3	0	3	MEC 4404	Tool and Die Design		2	6	4
MEC 3524	Mechanics of Materials		3	6	5	MEC 4405	Mechanisms		2	6	4
MEC 4425	Thermodynamics		3	3	4	MEC 4604	Machine Design		3	6	6
MEC 4434	Hydraulics and Pneumatics		2	6	4	MEC 4327	Microcomputer Applications Project		1	6	3
MEC 4515	Physical Metallurgy II		4	3	5	†	Technical Elective		3	0	3
					21						20

†General Education Electives must be chosen from the areas of communications, social science and/or humanities.

Total Credit Hours ..... 118

†Recommended Technical Electives:

- DFT 3314 Computer-Assisted-Drafting (CAD):  
Mechanical
- DFT 3507 Mechanical Drafting III
- DFT 3508 Mechanical Drafting IV
- EDP 3406 Microcomputer Programming—Advanced  
BASIC
- ELN 4337 Microcomputer Applications in Robotics
- ELN 4415 Industrial Programmable Controllers
- ELN 4525 Electrical Machines I
- ISC 3314 Computer-Aided-Manufacturing (CAM)
- ISC 4304 Production Planning
- ISC 4314 Inspection and Quality Control
- ISC 4400 Time and Motion Study
- ISC 4405 Process Planning
- ISC 4407 Introduction to Robotics
- MEC 4304 Compound Angles

*Mechanical Engineering Technology is an ABET accredited program at CPCC.*

# Medical Office Assisting (V031)

Medical Office Assistants are trained to assist physicians in the office, clinic or other medical setting to provide quality health care services. Duties include: maintaining medical records, typing and medical transcription, handling appointments, correspondence, insurance reports and office accounts. Duties also include admitting and preparing patients for examination, assisting with diagnostic tests and therapeutic treatments, performing routine office laboratory procedures, electrocardiograms, and sterilizing instruments.

In addition to classroom studies, each student is provided with "on-the-job" practice in a doctor's office under the direct supervision of a doctor and a medical assistant. These experiences are planned and coordinated by a member of the College faculty.

This program has been accredited by the AMA's Council on Allied Health Education and Accreditation, and the American Association of Medical Assistants. Graduates are eligible to take the national accreditation examination to become Certified Medical Assistants.

A Diploma in Medical Office Assisting will be awarded by the College upon completion of this course.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
MED 5204 Orientation to Health Careers		2	0	0 2
MED 3304 Medical Terminology and Vocabulary I		3	0	0 3
SEC 3400 Typing I		3	2	0 4
BIO 3600 Basic Health Science		5	2	0 6
COM 1304 Intro. to Communications		<u>3</u>	<u>0</u>	<u>0</u> 3
				18
<b>THIRD QUARTER</b>				
MED 3315 Medical Office Administration II		3	0	0 3
MED 5704 Examination Room Procedures		3	8	0 7
MED 5614 Laboratory Procedures		3	6	0 6
MED 3306 Medical Terminology and Vocabulary III		<u>3</u>	<u>0</u>	<u>0</u> 3
				19

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
SECOND QUARTER					
MED 3305	Medical Terminology and Vocabulary II	3	0	0	3
MED 3404	Medical Economics	3	2	0	4
MED 3400	Intro. to Med. Transcription	2	4	0	4
MED 4302	Ethics and Law	3	0	0	3
MED 3214	Medical Office Administration I	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
					16
FOURTH QUARTER					
MED 5707	Medical Office Practice	0	0	21	7
MED 5104	Medical Office Assisting Seminar	1	0	0	1
MED 5415	Advanced Medical Office Procedures	<u>4</u>	<u>0</u>	<u>0</u>	<u>4</u>
					12
Total Credit Hours .....					65

# Medical Office Assisting Technology (T058)

Medical Office Assisting Technology is a two-year program of technical education designed to prepare graduates to assist the physician in private offices, clinics or other health related institutions. The program provides a technical background of administrative, clinical and laboratory knowledge. Graduates will be able to take responsibility in the organization and management of a medical facility.

Any graduate of the existing one-year Medical Office Assisting program at Central Piedmont Community College will be admitted with advanced standing.

The Associate in Applied Science Degree—Medical Office Assisting Technology is awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*



## Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
MED 5204 Orientation to Health Careers	2	0	0	2
MED 3304 Medical Term. and Vocab. I	3	0	0	3
SEC 3404 Typing I	3	2	0	4
BIO 3600 Basic Health Science	5	2	0	6
COM 1304 Intro. to Communications	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				18
<b>THIRD QUARTER</b>				
MED 3315 Medical Office Administration II	3	0	0	3
MED 5704 Examination Room Procedures	3	8	0	7
MED 5614 Laboratory Procedures	3	6	0	6
MED 3306 Medical Term. & Vocab. III	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				19
<b>FIFTH QUARTER</b>				
COM 3305 Communication II	3	0	0	3
PSY 2504 General Psychology	5	0	0	5
MRT 3424 Principles of Disease	4	0	0	4
MED 5514 Symptomatology	<u>5</u>	<u>0</u>	<u>0</u>	<u>5</u>
				17
<b>SEVENTH QUARTER</b>				
MED 5615 Clinical Education Elective	3	0	30	6
	—	—	—	<u>3</u>
				9
Total Credit Hours .....				105

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
MED 3305 Medical Term. and Vocab. II	3	0	0	3
MED 3404 Medical Economics	3	2	0	4
MED 3214 Medical Office Administration I	2	0	0	2
MED 3400 Intro. to Med. Transcribing	2	4	0	4
MED 4302 Ethics and Law	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
				16
<b>FOURTH QUARTER</b>				
MED 5707 Medical Office Practice	0	0	21	7
MED 5104 Medical Office Assisting Seminar	1	0	0	1
MED 5415 Advanced Medical Office Procedures	<u>4</u>	<u>0</u>	<u>0</u>	<u>4</u>
				12
<b>SIXTH QUARTER</b>				
COM 3306 Communication III	3	0	0	3
MGT 4330 Supervision	3	0	0	3
MED 3300 Drug Therapy	3	0	0	3
SOC 2514 Introduction to Sociology	<u>5</u>	<u>0</u>	<u>0</u>	<u>5</u>
				14

## Suggested Electives:

SEC 3320	Personality Development
SEC 3405	Typing II
SEC 3304	Office Machines
PSY 2505	Human Development
EDP 3300	Introduction to Computer Concepts

## Medical Record Technology (T053)

*CPCC has a transfer agreement for this program with Western Carolina University.*

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

Medical Record Technicians are trained to process medical data which are used as a medium of communication among health care professionals for current and future patient care and for scientific, statistical and legal purposes. Areas of study include science, computer, secretarial, medical record science, and clinical experience in medical record departments.

Employment opportunities may be acquired in facilities which maintain health records for their clients or employees. These facilities include, but are not limited to, hospital medical record departments, large group medical practices, industry, outpatient clinics, extended care facilities, rehabilitation centers, and health departments. Generally, Medical Record Technicians work under the supervision of a Registered Record Administrator, but in small hospitals, group practice clinics, and extended care facilities, Medical Record Technicians are often employed to direct the health record processes.

Technical skills enable students to analyze and process medical records to assure completeness and accuracy according to set standards, code diseases by recognized classification systems, compile and utilize various health statistics, release medical information in accordance with ethical and legal guidelines, transcribe medical records, abstract and retrieve health information used for evaluating health care services, and supervise one or more health record services.

The Associate in Applied Science Degree—Medical Record Technology will be awarded upon completion of this program.

This program is accredited by the AMA's Committee on Allied Health Education and Accreditation, and the American Medical Record Association. Graduates are eligible to take the national accreditation examination to become Certified Record Technicians.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					
BIO 1504	Human Anatomy and Physiology I	3	4	0	5
MED 3304	Medical Terminology I	3	0	0	3
SEC 3404	Typing I	3	2	0	4
COM 1304	Introd. to Communications	3	0	0	3
MRT 3201	Orientation to MRT	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
					17

### THIRD QUARTER

MED 3306	Medical Terminology III	3	0	0	3
EDP 3405	Microcomputer Programming—BASIC	3	2	0	4
†COM 1305	Communications II	3	0	0	3
MET 3400	Introduction to Medical Transcribing	2	4	0	4
MRT 4315	Medical Record Standards and Regulations	3	0	0	3
MRT 3204	Directed Practice I	<u>0</u>	<u>0</u>	<u>6</u>	<u>2</u>
					19

### FIFTH QUARTER

*COM 1306	Communications III	3	0	0	3
MGT 4330	Supervision <i>OR</i>	3	0	0	3
MGT 4332	Personnel Management	2	4	0	4
MRT 3414	Medical Record Statistics	2	2	0	3
MRT 3303	Advanced Coding Concepts	0	0	6	2
MRT 4206	Directed Practice III	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
†	Elective				
					18

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>					
BIO 1505	Human Anatomy and Physiology II	3	4	0	5
MED 3305	Medical Terminology II	3	0	0	3
SEC 3405	Typing II	3	2	0	4
MRT 3300	Medical Record Content and Maintenance	2	2	0	3
MRT 4404	Legal Aspects of Medical Records	<u>3</u>	<u>2</u>	<u>0</u>	<u>4</u>
					19

### FOURTH QUARTER

FIN 3314	Business Mathematics I	3	0	0	3
MRT 3301	Quality Assurance in Health Care Facilities	2	2	0	3
MRT 3302	Basic ICD-9-CM Coding	2	2	0	3
MRT 3424	Principles of Disease	4	0	0	4
MRT 4205	Directed Practice II	0	0	6	2
	Psychology Elective	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
					18

### SIXTH QUARTER

MRT 4704	Directed Practice IV	0	0	21	7
MRT 4505	Medical Record Seminar	<u>5</u>	<u>0</u>	<u>0</u>	<u>5</u>
					12

Total Credit Hours ..... 103

†COM 3305 and COM 3306 may be substituted for COM 1305 and COM 1306.

†Students intending to transfer upon completion of the program should see the program director for advice about this elective.

## Medical Transcription (V127)

Advancements in medical technology and the increase in the number of people needing medical care have created a shortage of good medical transcriptionists. Medical transcription is an interesting and important career. Documentation of health care information is a vital key in medical research and patient care. Most medical transcriptionists are employed in hospitals, physicians' offices, public health departments, school health facilities, insurance agencies, legal firms, military medical departments, and governmental agencies. Employment opportunities are numerous and range from full- to part-time work with some jobs providing flexibility in hours.

This program is designed to prepare students to transcribe correspondence and medical documents, as well as to process insurance claims and other business duties. On-the-job training is provided during the last quarter of study. A Certificate will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

## Suggested sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					
COM 3515	Advanced Grammar	5	0	0	5
MED 3304	Medical Terminology & Vocab. I	3	0	0	3
SEC 3404	Typing I	3	2	0	4
BIO 3600	Basic Health Science	<u>5</u>	<u>2</u>	<u>0</u>	<u>6</u>
					18

**THIRD QUARTER**

MED 3306	Medical Term. & Vocabulary III	3	0	0	3
MET 3904	Transcription	4	10	0	9
MED 3315	Medical Office Administration II	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
					15

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>					
MED 5204	Orientation to Health Careers	2	0	0	2
SEC 3405	Typing II	3	2	0	4
MED 3305	Medical Term. & Vocab. II	3	0	0	3
MET 3400	Introduction to Medical Transcribing	2	4	0	4
MED 3214	Medical Office Administr. I	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>
					15

**FOURTH QUARTER**

MET 3204	Medical Transcription Seminar	2	0	0	2
MET 3505	Clinical Practice I	1	0	12	5
MET 3406	Clinical Practice II	0	0	12	4
	Elective (Optional)	—	—	—	<u>1</u>
					12
Total Credit Hours					60

## Nurse Aide (V072)

The Nurse Aide is an important member of the nursing team. This program prepares graduates to assist registered and practical nurses and physicians in carrying out nursing care and services to patients. The Nurse Aide performs health care procedures such as bathing and feeding patients, providing comfort measures, positioning patients, observing and recording vital signs, collecting specimens, and admitting, transferring and discharging patients. Graduates may be employed in hospitals, extended care facilities, nursing homes, and other health care facilities.

This program lasts six weeks and provides both classroom and supervised patient care experiences. A Certificate is awarded by the College upon successful completion.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
NUA 5501	Nurse Aide Skills I	3	6	5
NUA 5301	Nurse Aide Skills II	3	0	3
NUA 5502	Nurse Aide Skills III	<u>3</u>	<u>6</u>	<u>5</u>
				13

## Nursing, Associate Degree (T059)

This nursing program is designed to prepare graduates for entry into nursing practice as Registered Nurses (RN). Registered Nurses are responsible for planning and implementing nursing care given to clients with physical and emotional problems. They work in the prevention and treatment of disease in a variety of health care settings such as hospitals, nursing homes, extended care facilities, clinics, doctors' offices, mental health centers, public health agencies, and industry.

The program at CPCC consists of nursing theory and practice interwoven with studies of the basic sciences,



social sciences and English. Nursing experience is in the up-to-date facility of Charlotte Memorial Hospital and Medical Center, and in other community health agencies.

On campus, the auto-tutorial method is used for teaching nursing theory. This method allows students to learn each week's work at their own pace and at a time that is personally convenient. Group and instructor interaction occurs during small assembly sessions. Periodic testing on stated behavioral objectives is conducted.

Admission to the program is in the Fall Quarter only, and is based upon satisfactory scores on specific entrance tests, personal interview, and evidence of good physical and mental health. Completion of a high school course in chemistry or its equivalent is required. Applicants must submit a completed high school transcript supporting their high school diploma, or other evidence of a high school education.

The Associate in Applied Science Degree—Nursing will be awarded by the College upon completion of this program. Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN).

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					<b>SECOND QUARTER</b>				
NUR3704 Fundamentals of Nursing I	3	4	6	7	†NUR3805 Fundamentals of Nursing II	3	4	9	8
BIO 1504 Anatomy and Physiology I	3	4	0	5	BIO 1505 Anatomy and Physiology II	3	4	0	5
PSY 2504 General Psychology	5	0	0	5	†NUR3305 Nutrition for Nurses	3	0	0	3
				17					16
<b>THIRD QUARTER</b>					<b>FOURTH QUARTER</b>				
NUR3806 Care of the Adult Client I	3	4	9	8	NUR3905 Care of the Adult Client II	3	4	12	9
BIO 1503 Microbiology	3	4	0	5	‡PSY 2514 Abnormal Psychology	5	0	0	5
SOC 2514 Introduction to Sociology	5	0	0	5	COM 1304 Introd. to Communications	3	0	0	3
				18					17
<b>•FIFTH QUARTER</b>					<b>•SIXTH QUARTER</b>				
#NUR4614 Maternal-Neonatal Nursing	2	4	6	6	NUR4715 Nursing of Children	3	2	9	7
#NUR4615 Psychiatric Nursing	2	4	6	6	NUR4216 Physical Assessment for Nurses	2	0	0	2
COM 1305 English Composition II	3	0	0	3	COM 1306 English Composition III	3	0	0	3
				15	§Elective	3	0	0	3
<b>SEVENTH QUARTER</b>									15
NUR4906 Advanced Care of the Adult Client	3	4	12	9	#NUR 4614 and NUR 4615 are each offered for one-half quarter				
NUR4304 Nursing Perspectives	3	0	0	3	†NUR 3805 and NUR 3305 must be taken during same quarter.				
				12	‡PSY 2514 must be taken after entering the program.				
Total credit hours				110	§Elective must be approved by division head, must be in the area of sociology, psychology, anthropology, economics, political science or history, and must be from the College Transfer offerings.				

•Sequence of Fifth and Sixth Quarters may be reversed for one-half of class.

## Nursing, Practical (V038)

This nursing program is designed to prepare graduates for entry into nursing as a Licensed Practical Nurse (LPN). Licensed Practical Nurses provide care and treatment for selected patients under the supervision of a registered nurse or physician. They may provide care for the chronic or handicapped patient, but they are also prepared to assist the registered nurse in caring for the more seriously ill and injured. Both men and women find employment opportunities in this field.

Admission is based upon satisfactory scores on specific entrance tests, personal interview, and evidence of good physical and mental health. Applicants must submit a completed high school transcript or its equivalent. Students are admitted in the Fall Quarter each year.

A Diploma is awarded by the College upon completion of this program. Graduates are qualified to take the National Council Licensure Examination (NCLEX-PN).

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR	COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					<b>SECOND QUARTER</b>				
COM 5500 Communication Skills	5	0	0	5	HSA 5200 Human Relations	2	0	0	2
BIO 3600 Basic Health Science	5	2	0	6	NUP 5400 Basic Principles of Drug Administration	3	2	0	4
NUP 5203 Orientation to Vocational Relationships	2	0	0	2	NUP 5904 Care of Patients with Medical/Surgical Conditions I	3	2	15	9
NUP 5704 Introduction to Patient Care	3	4	6	7					15
				20					
<b>THIRD QUARTER</b>					<b>FOURTH QUARTER</b>				
NUP 5805 Care of Patients with Medical/Surgical Conditions II	3	4	9	8	NUP 5104 Vocational Relationships	1	0	0	1
NUP 5817 Care of Patients with Medical/Surgical Conditions III	3	4	9	8	NUP 5806 Care of Infants & Children	3	4	9	8
					NUP 5807 Care of Mothers and Newborn Infants	3	4	9	8
									17
				16	Total Credit Hours				68

## Paralegal Technician (T120)

*CPCC has a transfer agreement for this program with Pfeiffer College.*

*Students should consult with a faculty adviser or program counselor regarding transferrability of this program to senior institutions.*

In our complex society it has become necessary to have legally qualified personnel for research, reference, analysis, interpretation and contact with the public and private sectors of the law and the courts. In many instances Paralegal Technicians can provide much of the background and support work for employers who need these types of services.

Training includes general subjects such as English, accounting and psychology, as well as specialized legal courses including legal definitions, court systems, law, and techniques of investigation.

Paralegal Technicians will not be qualified to give legal advice, enter into courtroom procedures or be involved in litigation, except as an assistant to the lawyer. They will be able to assist in conducting investigations, preparing tax forms, serving and filing legal documents, bookkeeping, research, and providing office management assistance. Some provide legal services for judges, clerks prosecutor, public defenders, and other court personnel. Paralegal Technicians can assist correction officials, probation and parole officers. They can also provide valuable assistance to consumer law organizations, real estate companies, finance companies, and social agencies.

The Associate in Applied Science Degree—Paralegalism will be awarded by the College upon completion of this program.

For more information or answers to questions,  
call the program director, (704) 373-6610/6921, weekdays, 8 a.m.-5 p.m.  
*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR				HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
COURSE TITLE						COURSE TITLE					
ACC	1604	Principles of Accounting	5	2	6	Technical Electives (Choose at least 16 credit hours)					
BUS	2304	Business Law I	3	0	3	BUS	4303	Labor Law	5	0	5
*BUS	2305	Business Law II	3	0	3	‡LEX	4190	Cooperative Work Experience	0	10	1
EDP	3310	Microcomputer Operations	2	2	3	‡LEX	4290	Cooperative Work Experience	0	20	2
LEX	3300	Case Analysis and Reasoning	3	0	3	LEX	4300	Domestic Relations Law	3	0	3
LEX	3310	North Carolina Legal Systems	2	2	3	LEX	4341	Worker's Compensation Law	3	0	3
LEX	3320	Evidence	3	0	3	LEX	4351	Laws of Taxation	3	0	3
*LEX	3404	Legal Research	2	4	4	LEX	4352	Preparing Estate Planners	3	0	3
LEX	4520	Legal Ethics & Comprehension	5	0	5	‡LEX	4390	Cooperative Work Experience	0	30	3
LEX	4321	Tort Law	3	0	3	LEX	4410	Collections and Bankruptcy	3	2	4
LEX	4322	Corporate Law	3	0	3	‡LEX	4490	Cooperative Work Experience	0	40	4
LEX	4331	Law Office Management	3	0	3	‡LEX	4491	Cooperative Work Experience	0	40	4
*LEX	4332	Trial Preparation and Procedure	3	0	3	PSC	3504	Crime Scene Technology	4	2	5
LEX	4361	Interpreting Medical Reports	3	0	3	PSC	3510	Criminal Law	3	0	3
LEX	4420	Real Property Law and Title Abstracting	3	2	4	PSC	4501	Constitutional Law	5	0	5
*LEX	4430	Wills, Trusts and Probate	3	2	4	PSC	4505	Criminal Investigation	5	0	5
*LEX	4431	Interview and Investigation	3	2	4	SSH	3504	Occupational Safety and Health	4	2	5
*LEX	3405	Legal Writing	3	2	4	TRN	4354	Transportation Law I	3	0	3
LEX	4434	Legal Drafting	3	2	4	TRN	4355	Transportation Law II	3	0	3
SEC	3301	Legal Terminology and Vocabulary	3	0	3	Total Credit Hours . . . . . 111					
†SEC	3404	Typing I	3	2	4	‡Students may not receive more than 18 credit hours in Cooperative Work Experience.					
					75						
General Education Course Requirements:											
*COM	1304	Introd. to Communications	3	0	3						
§*COM	3305	Communications II	3	0	3						
§*COM	3306	Communications III	3	0	3						
ECO	3301	American Economic History	3	0	3						
PHI	2500	Logic	5	0	5						
SPH	1301	Persuasive Speaking	3	0	3						
					20						



*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					
BIO 1504	Human Anatomy and Physiology I	3	4	0	5
PSY 2504	General Psychology	5	0	0	5
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
HED 1204	Standard First Aid	1	2	0	2
PTH 3504	Introduction to Physical Therapy	3	6	0	5
†	Elective				

<b>THIRD QUARTER</b>					
COM 1305	English Composition II <i>OR</i>				
COM 3305	Communications II	3	0	0	3
MRT 3424	Principles of Disease	4	0	0	4
PTH 3525	Physical Ther. Procedures II	3	0	6	5
PTH 3714	Therapeutic Exercise	3	8	0	7
†	Elective				

<b>FIFTH QUARTER</b>					
SPH 1300	Oral Communication	3	0	0	3
PTH 4728	Phys. Ther. Procedures IV	3	0	†12	7
PTH 4334	Community Health and Welfare	3	0	0	3
†	Elective				

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>					
BIO 1505	Human Anatomy and Physiology II	3	4	0	5
COM 1304	Introd. to Communications	3	0	0	3
PTH 3524	Physical Ther. Procedures I	3	6	0	5
PTH 3615	Applied Anatomy	3	6	0	6
†	Elective				

<b>FOURTH QUARTER</b>					
COM 1306	English Composition II <i>OR</i>				
COM 3306	Communications III	3	0	0	3
PTH 4627	Phys. Ther. Procedures III	3	0	†9	6
PTH 4324	Psychology of Adjustment	3	0	0	3
†	Elective				

<b>SIXTH QUARTER</b>					
PTH 4344	Seminar in Physical Therapy Procedures	3	0	0	3
PTH 4604	Clinical Education I	0	0	18	6
PTH 4605	Clinical Education II	0	0	18	6

Total Credit Hours ..... 107-108

‡Clinic contact hours include a combination of laboratory and clinic hours as assigned by the instructor.

†9 to 10 credit hours in General College course electives are required in addition to the courses listed: 5 credit hours of which *MUST* be in social sciences and/or humanities, which should be taken in any of the first 5 quarters.

CPCP-PTR/02

## Piano Tuning and Repair (V118)

There are about 10 million pianos in the United States. At any given time, 95% of these are out of tune. This program is designed to equip students with the basic skills essential to building a clientele as a piano tuner and repair person.

The program provides practical, hands-on experience in refelting, regulating, working with piano actions, restringing, hammer replacement, and voicing, repairing, and replacing of parts. It teaches the aural method of tuning. Ability to play the piano is not necessary, but the nature of the profession demands that students be meticulous, patient and persistent. Graduates often set up their own business.

A Diploma in Piano Tuning and Repair will be awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, (704) 373-6618, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE				COURSE TITLE			
	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				<b>SECOND QUARTER</b>			
MUS 1154 Class Piano I	0	3	1	PTR 5608 Fundamentals of Tuning II	2	12	6
PTR 5300 Piano Technology—The Instru- ment and Tools	3	0	3	PTR 5211 Vertical Regulations	1	3	2
PTR 5210 Piano Actions	0	6	2	PTR 5212 Hammer Replacement	1	3	2
PTR 5607 Fundamentals of Tuning I	2	12	6	PTR 5200 Piano Service Seminar	2	0	2
PTR 5200 Piano Service Seminar	2	0	2	COM 5500 Communication Skills	<u>5</u>	<u>0</u>	<u>5</u>
EDP 3310 Microcomputer Operations	<u>2</u>	<u>2</u>	<u>3</u>				17
			17	<b>FOURTH QUARTER</b>			
<b>THIRD QUARTER</b>				PTR 5610 Advanced Tuning	2	12	6
PTR 5213 Grand Regulation	1	3	2	PTR 5200 Piano Service Seminar	2	0	2
PTR 5609 Intermediate Tuning	2	12	6	ART 1314 Basic Woodworking	0	6	3
PTR 5214 Restringing	1	3	2	MGT 5200 Shop Management	2	0	2
PTR 5200 Piano Service Seminar	2	0	2	PTR 5301 Piano Technology—The Technician	<u>3</u>	<u>0</u>	<u>3</u>
BUS 3300 Human Relations in Business	<u>3</u>	<u>0</u>	<u>3</u>				16
			15				
<b>FIFTH QUARTER—Piano Restoration (Optional)</b>							
ART 1317 Furniture Restoration I	0	6	3				
PTR 5330 Tuning Practicum	<u>0</u>	<u>9</u>	<u>3</u>				
			6				
Total Credit Hours .....			71				

## Police Science (T064)

Police professionals can no longer rely on past training and education because of their deep involvement with the administration of justice. They must understand attitudes and motivations of groups and individuals. They must be proficient in developing competency in investigative techniques, control functions, court procedures, police management, crime scene techniques, and the mechanics of arrest, search and seizure. Above all, law enforcement officers must understand and practice the meaning and value of ethical concepts related to honesty, integrity and tolerance.

The courses in this program are designed for law enforcement officers, prospective law enforcement officers, and citizens interested in crime and the police mission. Students in this program are prepared for the field of police work and related occupations. They gain a thorough understanding of behavior patterns, law, criminal activities, and psychology. Classes are scheduled so that they can be taken by law enforcement officers during their off-duty hours.

The Associate in Applied Science Degree—Police Science will be awarded upon completion of this program. For more information or answers to questions, call the program director, (704) 373-6720, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Required courses are as follows: (Students may obtain a course sequence list from the program counselor or department.)

### GENERAL EDUCATION COURSE REQUIREMENTS:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*COM 1304 Intro. to Communications	3	0	3
*COM 1305 English Composition II <i>OR</i>	3	0	3
*COM 3305 Communications II	3	0	3
*COM 1306 English Composition III <i>OR</i>	3	0	3
*COM 3306 Communications III	3	0	3
SPH 1301 Persuasive Speaking	<u>3</u>	<u>0</u>	<u>3</u>
			12

Plus 6 hours of General Education Courses selected from the following prefixes: POL, SOC, SPH, LIT, MAT, LAN, HUM, PSY, HIS

6

### TECHNICAL ELECTIVES:

(Choose at least 10 credit hours)

*PSC 4506 Advanced Crime Scene Technology	4	2	5
PSC 4510 Police Operations	4	2	5
PSC 3309 Boating Laws of North Carolina	1	4	3
PSC 3303 Motor Vehicle Laws of N.C.	2	2	3
CSC 3504 Juvenile Justice System	<u>5</u>	<u>0</u>	<u>5</u>
			10

\*Prerequisite required.

### TECHNICAL COURSE REQUIREMENTS:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
PSC 3500 Introduction to Criminology	5	0	5
PSC 3501 Intro. to Law Enforcement	5	0	5
PSC 3504 Crime Scene Technology	4	2	5
PSC 3510 Criminal Law	5	0	5
PSC 3514 Police Organization and Admin.	5	0	5
PSC 4310 Self Defense and Weaponry	1	4	3
PSC 4501 Constitutional Law	5	0	5
PSC 4503 Law Enforcement Psychology	5	0	5
*PSC 4504 Criminal Procedure and Rules of Evidence	5	0	5
PSC 4505 Criminal Investigation	5	0	5
PSC 4511 Administration of Justice	5	0	5
PSC 4520 Public Relations	5	0	5
SSH 3500 Introduction to Loss Prevention	5	0	5
SSH 4510 Principles of Interviewing and Interrogation	<u>5</u>	<u>0</u>	<u>5</u>
			68
Total Credit Hours	96		

## Recreation Associate (T094)

The growing field of recreation has become an area requiring leadership qualities and skilled personnel. The Recreation Associate program provides students with the knowledge and skills needed to provide quality recreation and is designed to provide opportunity for students to develop skills in scheduling special events and tournaments, sports officiating, and individual lifetime activities. Students will learn to plan and direct recreational activities for different age groups in many settings, both public and private.

Employment opportunities exist in community programs, projects of local governments, YMCA's and YWCA's, boys' clubs, Boy Scouts, Girl Scouts, hospitals, nursing homes, state parks, federal parks, industry, public and private resorts, summer camps, rehabilitation programs, and regional institutions. Red Cross intermediate swimming skills are required.

The Associate in Applied Science Degree—Recreation will be awarded by the College upon completion of this program.

For more information or answers to questions, call (704) 373-6937, weekdays, 8 a.m. to 5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>			
HPE 1404 Intro. to Recreation Services	3	3	4
COM 1304 Intro. to Communications	3	0	3
HPE 1504 Relays and Games of Low Organization & Team Sports	3	6	5
HED 1300 Intro. to Health Education	3	0	3
§ Elective			4
	<u>12</u>	<u>9</u>	<u>19</u>
<b>THIRD QUARTER</b>			
SOC 1301 Group Interaction	3	0	3
BIO 1505 Human Anatomy & Physiology	3	4	5
HPE 1214 Water Activities	1	3	2
HOR 3302 Landscape Graphics and Measurements	2	2	3
ART 1393 Visual Aids	<u>2</u>	<u>2</u>	<u>3</u>
	11	11	16

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>			
HED 1204 Standard First Aid	1	2	2
†FIN 3314 Business Math I	3	0	3
BIO 1504 Human Anatomy & Physiology	3	4	5
ART 1322 Crafts	0	6	3
‡COM 3515 Advanced Grammar	<u>5</u>	<u>0</u>	<u>5</u>
	12	12	18
<b>FOURTH QUARTER</b>			
SPH 1300 Oral Communications	3	0	3
HED 2204 Prevention and Treatment of Injuries at Recreation Events	1	2	2
HPE 2445 Principles of Physical Fitness	3	3	4
HED 1203 (CPR) Cardiopulmonary Resuscitation	2	0	2
HOR 3504 Ground Maintenance I	<u>3</u>	<u>4</u>	<u>5</u>
	12	9	16



**FIFTH QUARTER**

HPE 2424	Program Planning and Organization	3	3	4
BUS 3300	Human Relations in Business	3	0	3
HPE 2434	Recreation and Special Populations	3	3	4
HOR 3405	Grounds Maintenance II	2	4	4
§	Elective			3
		<u>11</u>	<u>10</u>	<u>18</u>

§ Electives must be approved by Health, Physical Education and Recreation Division. Recommended courses are:

Any course with HED or HPE prefix.

ART 1300 Introduction to Art I

ART 1364 Ceramics

ART 1384 Basic Camera Techniques

MUS 1300 Introduction to Music I

MUS 1304 Children's Music I

MUS 1305 Children's Music II

DRA 1300 Introduction to Drama

†MAT 1504, MAT 1505, or MAT 1514, MAT 1515 may be taken if students have met requirements.

‡COM 1305, 1306 may be taken if students have met requirements.

**SIXTH QUARTER**

HPE 2315	Scheduling Special Events and Tournaments	2	3	3
HPE 2200	Sports Officiating	1	3	2
HPE 2325	Intro. to Outdoor Recreation	2	3	3
HPE 2314	Individual Lifetime Recreational Activities	2	3	3
HOR 3410	Turf Management	2	4	4
§	Elective			3
		<u>9</u>	<u>16</u>	<u>18</u>

Total Credit Hours ..... 105

## Respiratory Therapy Technology (T091)

The rapid advances in cardiorespiratory physiology, coupled with the development of sophisticated technology for the diagnosis and treatment of patients with cardiopulmonary disorders, have increased the need for Respiratory Therapists. Respiratory therapy is rapidly rising to the forefront of allied health services.

Respiratory Therapists use a wide variety of therapeutic skills, procedures and techniques in the application of medical gases, medications and equipment in the treatment of respiratory dysfunctions. Various testing techniques are used to assist in diagnosis, monitoring, treatment and research.

Most Respiratory Therapists are employed in hospital respiratory therapy departments or pulmonary function laboratories. Others are employed by contract service companies, home care companies and educational institutions.

Respiratory therapy theory, laboratory procedures and clinical application are studied along with basic sciences, social sciences and communication skills. Theory and laboratory classes are held on the College campus, with the clinical classes meeting in hospitals and other health care facilities. This program is accredited by the American Medical Association. The Associate in Applied Science Degree—Respiratory Therapy Technology will be awarded by the College upon completion. Graduates are eligible for examinations given by the National Board for Respiratory Care, Inc.

For more information or answers to questions, call the program director, (704) 373-6795, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Sequence of required courses:

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>					
BIO 1504	Anatomy and Physiology I	3	4	0	5
†MAT 3504	Technical Mathematics	5	0	0	5
RTH 3807	Introduction to Respiratory Therapy	4	4	6	8
COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CLC /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>					
BIO 1505	Anatomy and Physiology II	3	4	0	5
RTH 3305	Respiratory Pharmacology	3	0	0	3
RTH 3304	Pathology and Physical Diagnosis	2	2	0	3
RTH 3714	Respiratory Therapy Procedures I	2	4	9	7

**THIRD QUARTER**

BIO 3404	Cardiopulmonary Anatomy and Physiology	3	2	0	4
BIO 1503	Microbiology	3	4	0	5
RTH 3805	Respiratory Therapy Procedures II	3	4	9	8
†	Elective				

**FIFTH QUARTER**

COM 1304	Introd. to Communications	3	0	0	3
RTH 4416	Introduction to Pulmonary Functions	2	0	6	4
RTH 4724	Continuous Ventilation	3	0	12	7
PTH 4324	Psychology of Adjustment	3	0	0	3
†	Elective				

**SEVENTH QUARTER**

*COM 3306	Communications III	3	0	0	3
RTH 4606	Clinical Application I	2	0	12	6
RTH 4607	Clinical Application II	2	0	12	6
†	Elective				

**FOURTH QUARTER**

‡PHY 3414	Physics of Respiratory Therapy	3	2	0	4
CHM 1501	Chemistry for the Health Profession I	3	4	0	5
RTH 4814	Intro. to Emergency and Intensive Resp. Care	4	2	9	8
RTH 4415	Equipment for Continuous Ventilation	3	2	0	4

**SIXTH QUARTER**

‡COM 3305	Communications II	3	0	0	3
RTH 4504	Pulmonary Functions I	2	0	9	5
RTH 4605	Pulmonary Functions II	2	2	9	6
SPH 1300	Oral Communications	3	0	0	3
†	Elective				

‡Students intending to transfer upon completion of the Program should see program faculty for advice.

†Three credit hours required in communications, social science or humanities. May be taken any of these quarters.

Total Credit Hours ..... 126

# Secretarial Science

## Executive Secretary (T030)

## Legal Secretary (T031)

## Medical Secretary (T032)

## General Office Technology (T033)

Business, industry, government, and the professions could hardly function without competent secretaries. The demand for good secretaries far exceeds the supply. Education in this occupational field provides many opportunities to work in pleasant and attractive surroundings on interesting things with appreciative people.

Secretaries must bring to their positions, along with basic skills of shorthand, typing and English, an understanding of office procedures, accounting and human relations.

The Associate in Applied Science Degree—Secretarial Science will be awarded by the College upon completion of this program.

**National Certification Examinations:** Students enrolled in any secretarial program may apply to take the Certified Professional Secretary Examination and/or the Professional Legal Secretary Examination. Additional information can be obtained from the Secretarial Science Department

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

## Executive Secretary (T030)

Executive Secretaries perform office-related activities which include taking and transcribing dictation, scheduling appointments, screening callers and visitors, typing, word processing duties, and other administrative responsibilities.

**Course Requirements:** (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CR/ QTR	COURSE TITLE	HRS CR/ QTR
*COM 1304 Introduction to Communications	3	*SEC 3405 Typing II	4
*COM 3515 Advanced Grammar	5	*SEC 3406 Typing III	4
SPH 1300 Oral Communications	3	*SEC 4407 Typing IV	4
ECO 3300 Introduction to Economics	3	*SEC 4408 Typing V	4
SPH 2101 Parliamentary Procedures	1	*SEC 3414 Shorthand I	4
† Elective	3	*SEC 3415 Shorthand II	4
BUS 1400 Introduction to Business	4	*SEC 3416 Shorthand III	4
BUS 3300 Human Relations in Business	3	*SEC 4417 Shorthand IV	4
FIN 3314 Business Mathematics I	3	*SEC 4418 Shorthand V	4
*FIN 3315 Business Mathematics II	3	SEC 4370 Records Management	3
BUS 2304 Business Law I	3	*SEC 4305 Business Communications	3
EDP 3300 Introduction to Computer Concepts <b>OR</b>		*SEC 3304 Office Machines	3
EDP 3310 Microcomputer Operations	3	*SEC 4517 General Office Procedures	5
ACC 3600 General Accounting <b>OR</b>		*SEC 4426 Word Processing I	4
ACC 1604 Principles of Accounting I	6	*SEC 4427 Machine Transcription	4
SEC 3320 Personal Projection	3	SEC 3510 Effective Word Techniques	5
SEC 3404 Typing I	4	Total Credit Hours	113

\*Prerequisite or Corequisite required; check Catalog description.  
†Course must be selected from the area of communications, social science or humanities.

## Legal Secretary (T031)

Legal Secretaries are essential employees in any law office and have skills which are in great demand. Duties may consist of filing, taking dictation, transcribing letters and legal documents, greeting clients, screening telephone calls, and scheduling appointments. Legal Secretaries must also have a knowledge of legal terminology and procedures. Job opportunities exist in law offices, corporate legal departments, banks, trust companies, and governmental agencies.

**Course Requirements:** (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CR/ QTR	COURSE TITLE	HRS CR/ QTR
BUS 3300 Human Relations in Business	3	SEC 3404 Typing I	4
*COM 1304 Introduction to Communication	3	*SEC 3405 Typing II	4
COM 3515 Advanced Grammar	5	*SEC 3406 Typing III	4
SPH 1300 Oral Communications	3	*SEC 4407 Typing IV	4
SPH 2101 Parliamentary Procedures	1	*SEC 4409 Legal Typing	4
SPH 2300 Voice and Diction	3	SEC 3414 Shorthand I	4
FIN 3314 Business Mathematics I	3	*SEC 3415 Shorthand II	4
SEC 3510 Effective Word Techniques	5	*SEC 3416 Shorthand III	4
BUS 2304 Business Law I	3	*SEC 4448 Legal Shorthand	4
*BUS 2305 Business Law II	3	SEC 4370 Records Management	3
ACC 1604 Principles of Accounting <b>OR</b>		SEC 3301 Legal Terminology and Vocabulary	3
ACC 3600 General Accounting	6	*SEC 3304 Office Machines	3
MGT 4331 Administrative Office Management <b>OR</b>		*SEC 4305 Business Communications	3
LEX 4331 Law Office Management	3	*SEC 4426 Word Processing I	4
EDP 3300 Introduction to Computer Concepts <b>OR</b>		*SEC 4425 Machine Transcription	4
EDP 3310 Microcomputer Operations	3	*SEC 4517 General Office Procedures	5
† Electives	7	Total Credit Hours	112

\*Prerequisite or Corequisite required; check Catalog description.  
†Course(s) must be selected from the courses with the following prefixes: LEX, BUS, ACC, and/or FIN.

## Medical Secretary (T032)

Medical Secretaries file, transcribe letters, memoranda and reports, receive callers, screen telephone calls, complete insurance forms, and schedule appointments. Typical positions are in physicians' offices, private and public hospitals, public health agencies, and drug and pharmaceutical companies.



**Course Requirements:** (Students may obtain a course sequence list from the program counselor or department.)

		HRS CR/ QTR		HRS CR/ QTR
COURSE TITLE			COURSE TITLE	
*COM 1304 Introduction to Communications	3		*SEC 3406 Typing III	4
COM 3515 Advanced Grammar	5		*SEC 4407 Typing IV	4
SPH 1300 Oral Communications	3		*SEC 4416 Medical Typing	4
† Elective			SEC 4370 Records Management	3
SPH 2300 Voice and Diction	3		*SEC 3304 Office Machines	3
BUS 3300 Human Relations in Business	3		*SEC 4305 Business Communications	3
FIN 3314 Business Mathematics I	3		*SEC 4425 Machine Transcription	4
*FIN 3315 Business Mathematics II	3		*SEC 4426 Word Processing I	4
ACC 1604 Principles of Accounting I <i>OR</i>			*SEC 3424 Medical Transcription I <i>OR</i>	
ACC 3600 General Accounting	6		MET 3400 Introduction to Medical Transcription	4
MED 4302 Medical Ethics and Law	3		*SEC 4427 Word Processing II	4
BIO 3600 Basic Health Science	6		*SEC 4517 General Office Procedures	5
EDP 3300 Introduction to Computer Concepts <i>OR</i>			MED 3304 Medical Terminology I	3
EDP 3310 Microcomputer Operations	3		*MED 3305 Medical Terminology II	3
MGT 4331 Administrative Office Management	3		*MED 3306 Medical Terminology III	3
SEC 3510 Effective Word Techniques	5		Total Credit Hours	112
SEC 3404 Typing I	4		*Prerequisite or Corequisite required, check Catalog description.	
*SEC 3405 Typing II	4		†Course must be selected from the area of communications, social science or humanities.	

## General Office Technology

This program prepares students to handle typical office tasks, such as filing, typing, transcribing, mail handling, telephoning, record keeping, greeting customers, and using various office machines including word processing equipment.

**Course Requirements:** (Students may obtain a course sequence list from the program counselor or department.)

		HRS CR/ QTR		HRS CR/ QTR
COURSE TITLE			COURSE TITLE	
*COM 3515 Advanced Grammar	5		*SEC 4305 Business Communications	3
*COM 1304 Introduction to Communications	3		*SEC 4407 Typing IV	4
SPH 2300 Voice and Diction	3		*SEC 4426 Word Processing I	4
SPH 1300 Oral Communications	3		*SEC 4425 Machine Transcription	4
*COM 3305 Communications II	3		*SEC 4408 Typing V	4
† Elective	1-3		†*SEC 4427 Word Processing II	4
FIN 3314 Business Mathematics I	3		ACC 3600 General Accounting <i>OR</i>	6
*FIN 3315 Business Mathematics II	3		ACC 1604 Principles of Accounting I	
BUS 1400 Introduction to Business	4		BUS 3300 Human Relations in Business	3
MGT 4331 Administrative Office Management	3		EDP 3310 Microcomputer Operations <i>OR</i>	3
SEC 3404 Typing I	4		EDP 3300 Introduction to Computer Concepts	3
SEC 4370 Records Management	3		SEC 4517 General Office Procedures	5
SEC 3320 Personal Projection	3		Total Credit Hours	103-105
*SEC 3405 Typing II	4		*Prerequisite or Corequisite required; check Catalog description.	
SEC 3310 Introduction to the Electronic Office	3		†Course must be selected from the areas of communications, social science or humanities.	
SEC 3510 Effective Word Techniques	5		‡Students may choose to do two quarters of CoOp, SEC 4201, instead of this course.	
*SEC 3406 Typing III	4			
*SEC 3304 Office Machines	3			
SEC 3311 Receptionist Skills	3			

## The 3-Plus Plan

The following courses can be taken in three quarters. These courses are designed for individuals entering, upgrading or retraining for the comprehensive office technology required in today's business world. If a student later decided to do so, the remaining courses in General Office Technology will complete the requirements for the Associate in Applied Science Degree. A course-quarter sequence sheet, labeled THE 3-PLUS PLAN, should be obtained from the Secretarial Department or program counselor.

\*COM 3515 Advanced Grammar  
 FIN 3314 Business Mathematics I  
 SEC 3404 Typing I  
 SEC 4370 Records Management  
 SEC 3320 Personal Projection  
 \*SEC 3405 Typing II  
 SEC 3310 Introduction to the Electronic Office  
 SEC 3510 Effective Word Techniques

\*SEC 3406 Typing III  
 \*SEC 3304 Office Machines  
 SEC 3311 Receptionist Skills  
 \*SEC 4426 Word Processing I  
 \*SEC 4425 Machine Transcription  
 ACC 3600 General Accounting  
 \*Prerequisite required.

## Transportation (T034)

### Operations Sales Traffic

The Metrolina area is a major transportation and warehousing center for the southern part of the country. The opportunity for employment and advancement in the transportation industry in Metrolina is very good. CPCC offers an opportunity for those not yet employed in transportation to gain practical knowledge needed for employment. CPCC also offers those presently employed the opportunity to gain needed knowledge for more rapid advancement.

The Associate in Applied Science Degree—Transportation will be awarded by the College upon completion of this program.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

### General Course Requirements

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
*COM 1304 Introd. to Communications	3	0	3
†*COM 3305 Communications II	3	0	3
†*COM 3306 Communications III	3	0	3
SPH 1300 Oral Communications	3	0	3
ECO 2304 Economics (Macro)	3	0	3
*ECO 2305 Economics (Micro)	3	0	3
ACC 1604 Principles of Accounting I	5	2	6
*ACC 1605 Principles of Accounting II	5	2	6
BUS 1400 Introduction to Business	3	2	4
BUS 2304 Business Law I	3	0	3
BUS 3300 Human Relations in Business	3	0	3
†FIN 3314 Business Mathematics I	3	0	3
MGT 2314 Principles of Management	3	0	3
†FIN 3315 Business Mathematics II	3	0	3
EDP 3300 Intro. to Computer Concepts	3	0	3
*EDP 4314 Systems and Procedures	3	0	3
*BUS 3304 Business Statistics	3	0	3
Electives	—	—	15
			73

\*Prerequisite required.

†MAT 1504, MAT 1505, or MAT 1514, MAT 1515 may be taken if student has met requirements.

†COM 1305, COM 1306 may be taken if student has met requirements.

### Operations

To earn a Degree in Transportation Operations, students must complete 103 credit hours as follows: 73 General Course Requirements and 30 credit hours of Required Courses below. (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
TRN 3300 Introduction to Transportation	3	0	3
TRN 3350 Highway Transportation	3	0	3
TRN 3320 Motor Fleet Supervision I	3	0	3
*TRN 3321 Motor Fleet Supervision II	3	0	3
MGT 4330 Supervision	3	0	3
TRN 4356 Intro. to Physical Distribution	3	0	3
TRN 4360 Motor Carrier Management	3	0	3
TRN 4351 Freight Claims	3	0	3
*TRN 4370 Transportation Seminar	1	4	3
TRN 4358 Warehousing	3	0	3
	3	0	30

\*Prerequisite required.

## Sales

To earn a Degree in Transportation Sales, students must complete 103 credit hours as follows: 73 credit hours of General Course Requirements and 30 credit hours of Course Requirements below. (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CLS	HRS LAB	HRS CR/ QTR
	/WK	/WK	
TRN 3300 Introduction to Transportation	3	0	3
MKT 3320 Fundamentals of Selling	3	0	3
*TRN 3360 Motor Carrier Rates	2	2	3
TRN 4351 Freight Claims	3	0	3
TRN 4356 Intro. to Physical Distribution	3	0	3
TRN 4397 Import-Export Management	3	0	3
MKT 1304 Marketing I	3	0	3
*MKT 4306 Sales Management	3	0	3
*TRN 4370 Transportation Seminar	1	4	3
SPH 1301 Persuasive Speaking	3	0	3
*Prerequisite required.			30

## Traffic

To earn a Degree in Transportation Traffic, students must complete 103 credit hours as follows: 73 credit hours of General Course Requirements and 30 credit hours of Course Requirements below. (Students may obtain a course sequence list from the program counselor or department.)

COURSE TITLE	HRS CLS	HRS LAB	HRS CR/ QTR
	/WK	/WK	
TRN 3300 Introduction to Transportation	3	0	3
TRN 3351 Traffic Management	3	0	3
*TRN 3360 Motor Carrier Rates	2	2	3
TRN 4351 Freight Claims	3	0	3
TRN 4354 Transportation Law	3	0	3
TRN 4356 Intro. to Physical Distribution	3	0	3
TRN 4397 Import-Export Management	3	0	3
MKT 4322 Purchasing	3	0	3
TRN 3303 Economics of Transportation	3	0	3
*TRN 4370 Transportation Seminar	1	4	3
*Prerequisite required.			30

## Welding (V050)

Welders join metals by applying intense heat and, sometimes, pressure to melt the edges and form a permanent bond. Many of the parts used in missiles, automobiles, airplanes, refrigeration equipment, and thousands of other products are joined by the widely used process of welding.

Some experienced welders advance into positions involving coordination of workflow between engineers and welders, performing weld tests and inspections, analyzing and organizing materials or production, collecting test data, using instruments and gauges, supervising other welders and controlling testing machinery and equipment. Experienced welders often travel and receive good wages. Skilled welders work on bridges, buildings, dams, nuclear power plants and equipment, ships, aircraft, petro-chemical plants, and other construction projects around the globe.

The welding program at CPCC combines theory and practice in presenting the methods and developments used in the metal fabrication industry. Welding processes include oxyacetylene, gas metal, arc, gas tungsten arc, and shielded metal arc welding. Structural steel and pressure vessel welding are practiced. Destructive and non-destructive testing, and boiler and pressure vessel codes are studied. Related instruction is provided in related science, math, blueprint reading, strength of metals, and metallurgy.

A Diploma in Welding is awarded by the College upon completion of this program.

For more information or answers to questions, call the program director, (704) 373-6709, weekdays, 8 a.m.-5 p.m.

*The first step to enroll: call the CPCC Information/Admissions Center, 373-6687.*

Suggested sequence of required courses:

COURSE TITLE	HRS CLS	HRS LAB	HRS CR/ QTR
	/WK	/WK	
<b>FIRST QUARTER</b>			
WLD 5301 Blueprint Reading for Welders I	3	0	3
WLD 5401 Basic Calculations for Welders	4	0	4
WLD 5450 Gas Metal Arc Welding	2	6	4
WLD 5610 Oxyacetylene Welding and Cutting	3	9	6
<b>OR</b>			
†WLD 5311 Oxyacetylene Weld. & Cut. I	2	3	3
†WLD 5312 Oxyacetylene Weld. & Cut. II	2	3	3
MEC 5214 Practical Metallurgy I	1	3	2
			19

COURSE TITLE	HRS CLS	HRS LAB	HRS CR/ QTR
	/WK	/WK	
<b>SECOND QUARTER</b>			
WLD 5302 Blueprint Read'g for Welders II	3	0	3
WLD 5820 Arc Welding	4	12	8
<b>OR</b>			
*WLD 5421 Arc Welding I	2	6	4
*WLD 5422 Arc Welding II	2	6	4
MEC 5215 Practical Metallurgy II	1	3	2
‡ Elective	—	—	2
			15



**THIRD QUARTER**

WLD 5240 Introductory Pipe Welding	1	3	2
WLD 5380 Gas Tungsten Arc Welding	4	12	8
<b>OR</b>			
†WLD 5431 Gas Tungsten Arc Welding I	2	6	4
†WLD 5432 Gas Tungsten Arc Welding II	2	6	4
PHY 5304 Shop Science I	2	2	3
COM 5500 Communication Skills	<u>5</u>	<u>0</u>	<u>5</u>
			18

†For evening students.

**FOURTH QUARTER**

WLD 5267 Certification Practice	0	6	2
WLD 5268 Certification Testing	2	0	2
WLD 5654 Commercial & Industrial			
<b>OR</b> Practices	2	12	6
*WLD 5355 Comm. & Industrial Practices I	1	6	3
*WLD 5356 Comm. & Industrial Practices II	1	6	3
HSA 5200 Human Relations	2	0	2
PHY 5305 Shop Science II	2	2	3
‡ Elective	—	—	<u>2</u>
			17

Total Credit Hours ..... 69

‡**RECOMMENDED ELECTIVES:**

- AHR 5594 Duct Design I—Rectangular Duct
- BUS 1400 Introduction to Business
- COM 1304 Introduction to Communications
- DFT 3403 Technical Drafting I
- HED 1204 First Aid I
- MAC 5201 Machine Shop Practices
- MGT 5200 Shop Management
- PME 5211 Small Engine Repair I
- RDN 9510 Reading Improvement
- WLD 5404 Pipe Welding



# Transfer Programs

## Associate in Arts Degree

## Associate in Fine Arts Degree

Accounting  
 Art  
 Behavioral and Social Sciences  
 Biology  
 Business Administration  
 Computer Science  
 Health and Physical Education

Humanities  
 Mathematics  
 Performing Arts  
 Physical Science  
 Reading, Speech, Foreign Language  
 Writing and Humanities

With the increased demand for education beyond the high school level, community colleges throughout the nation are faced with the challenge of providing both the first two years of baccalaureate degree work as well as service-oriented courses for general education and personal development. The transfer section of Central Piedmont Community College is dedicated to assisting students to achieve their educational goals in both areas.

Transfer courses at Central Piedmont Community College are taught through stated student performance objectives. This method of teaching involves both content and motivation objectives. Student accountability is at the heart of this method of instruction since students are accountable for meeting particular performance objectives.

Upon completion of most courses for the two-year baccalaureate degree at Central Piedmont Community College, students should be able to evidence: effective communication skills; adequate analytical capabilities; workable problem-solving skills; increased awareness and understanding of the world in which they live; and familiarity with, and appreciation of, the arts, literature, humanities.

Students should read the first section of this Catalog for College policies that pertain to *all* students. Information in this section is especially relevant to students who intend to earn the Associate in Arts Degree, or the Associate in Fine Arts Degree, and transfer to a senior institution.

The Community College Advisory Committee, including representatives of state-supported colleges and universities, has worked with the North Carolina Department of Community Colleges and Central Piedmont Community College to assist in the development of degree programs which are acceptable to senior institutions in this area. Consequently, courses taken at Central Piedmont Community College should transfer in credit to the senior institution as applicable to the major for which such courses were intended.

Students are able to transfer to a senior institution with junior status after completing one of the transfer degrees at Central Piedmont Community College. Counselors and faculty members are ready to assist students in course selection. Students, however, are responsible for obtaining a catalog from the senior institution where they plan to enroll, for familiarizing themselves with transfer requirements at that institution, and for making periodic checks of personal progress while completing their freshman and sophomore requirements at CPCC.

Courses at Central Piedmont Community College begin with three capitalized letters and a number. Courses beginning with a 1 or 2 are considered transfer courses. Transfer course numbers and titles are listed in this section of the Catalog; course content is listed in alphanumerical order in the Course Description section.

### REQUIREMENTS FOR THE DEGREES

Students must complete a minimum of 96 quarter hours of course work to qualify for the Associate in Arts Degree or Associate in Fine Arts Degree. Only ten hours of General Studies (GEN) may be included in the 96 hours. GEN courses provide students with specific study of general interest. These courses originate in and are taught through the different College departments.

**ASSOCIATE IN ARTS DEGREE (C011)**

Students are eligible for the Associate in Arts Degree upon completing the required 96 quarter hours for graduation, including the minimum hours in each area listed below:

**CORE REQUIREMENTS**

Communication .....	9
English Composition COM 1304, COM 1305, COM 1306 (Required of all students)	
Behavioral and Social Science .....	12
Health and Physical Education .....	3
Humanities .....	14
Biological Science, Physical Science and Mathematics .....	20
Courses must be chosen from at least two of the three fields.	

At least ten hours credit must be taken in laboratory science, either biological or physical.

**NOTE:** Requirements for the different pre-professional areas will vary; therefore, it is the responsibility of the student to check the catalog of the senior institution to which transfer is planned. High school background, scholastic aptitude, and vocational goals also will be considered as factors shaping the individual's program of study. Counselors and faculty members are available to assist students in course selection. (*This is a sample program and is not meant to be prescriptive for any particular individual.*)

**1st Quarter**

COM 1304 Introduction to Communications .....	3
Mathematics .....	5
Laboratory Science .....	5 or 6
Health and Physical Education .....	1
Electives .....	1 to 3

**2nd Quarter**

COM 1305 English Composition II .....	3
Mathematics .....	5
Laboratory Science .....	5 or 6
Health and Physical Education .....	1
Electives .....	1 to 3

**3rd Quarter**

COM 1306 English Composition III .....	3
Social Science .....	3 or 5
Health and Physical Education .....	1
Electives .....	7 to 9

**4th Quarter**

Humanities .....	3 or 5
Behavioral and Social Science .....	3 or 5
Electives .....	6 to 10

**5th Quarter**

Humanities .....	3 to 5
Behavioral and Social Science .....	3 or 5
Electives .....	11 to 13

**6th Quarter**

Humanities (if needed)	
Electives to bring total hours to 96	

**ASSOCIATE IN FINE ARTS DEGREE**

The Associate in Fine Arts Degree is awarded in art, music, drama and dance. Students are eligible for the Associate in Fine Arts Degree upon completing the required minimum 96 quarter hours for graduation, including the minimum in each area listed below:

**CORE REQUIREMENTS**

Communications .....	9
English Composition COM 1304, COM 1305, COM 1306	
Biological Science, Physical Science and/or Mathematics .....	10
Humanities .....	12
Six hours must be taken outside the major area of concentration.	
Behavioral and Social Science .....	10
Health and Physical Education .....	3

**Major Area of Concentration in ART (C003)**

Students pursuing the AFA Degree in ART are required to take the following courses:

History of Art I, II, III	Drawing I, II, III
Design I, II, III	

Twelve hours in specific major area of concentration.

Electives to bring total hours to 96 hours.

**Major Area of Concentration in DANCE (C037)**

Students pursuing the AFA Degree in DANCE are required to take the following courses:

Ballet I, II, III	Advanced Modern I, II, III
Modern I, II, III	Choreography I, II, III
Dance Production	Music Appreciation I
Dance Technique Electives	Human Anatomy and Physiology
Dance History	Music for Dancers I, II

Electives to bring total hours to 96 hours.

**Major Area of Concentration in DRAMA (C006)**

Students pursuing an AFA Degree in DRAMA are required to take the following courses:

Introduction to Theater	Music Appreciation
Stagecraft	Class Voice
Acting, I, II	Dance Electives
Introduction to Drama	Directing
Play Production	Scene Design I
Make-Up Design	Advanced Directing
Dance for Musical Theater	Advanced Production
Playwriting	

Electives to bring total hours to 96 hours.

**Major Area of Concentration in MUSIC (C015)**

Students pursuing an AFA Degree in MUSIC are required to take the following courses:

Class Piano I, II, III	Music Theory I, II, III
Advanced Music Theory	Ensemble (6 credits)
I, II, III	Applied Music (9 credits)
Advanced Applied Music	History and Literature of
(9 credits)	Music I, II, III

Electives to bring total hours to 96 hours.



**STUDENTS MAY SELECT CORE REQUIREMENT COURSES FROM THIS LIST FOR THE ASSOCIATE IN ARTS AND ASSOCIATE IN FINE ARTS DEGREES:**

***Behavioral and Social Sciences***

- ANT 1502 General Anthropology  
 ECO 2304 Economics I (Macro)  
 ECO 2305 Economics II (Micro)  
 ECO 2306 Economics III  
 EDU 2500 Introduction to Education  
 HIS 1500 World Civilization I  
 HIS 1501 World Civilization II  
 HIS 1502 American History I  
 HIS 1503 American History II  
 HIS 1510 American Civil War  
 HIS 1520 Black History I  
 HIS 1521 Black History II  
 HIS 2500 North Carolina History  
 HIS 2504 Special Topics in History  
 HIS 2520 Oriental Civilization  
 HIS 2530 Russian History  
 POL 1502 American Politics  
 POL 1510 Introduction to Comparative Politics  
 POL 1511 Introduction to International Relations  
 POL 2500 State and Urban Politics  
 POL 2501 Political Ideologies  
 POL 2504 Special Topics in Political Science  
 PSY 1500 Psychology of Adjustment  
 PSY 2500 Educational Psychology  
 PSY 2504 General Psychology  
 PSY 2505 Human Development  
 PSY 2514 Abnormal Psychology  
 PSY 2524 Mental Retardation  
 PSY 2536 Special Problems in Psychology  
 SOC 1301 Group Interaction  
 SOC 1500 Sociology of the Family  
 SOC 2501 People and Environment  
 SOC 2514 Introduction to Sociology  
 SOC 2515 Social Problems  
 SOC 2524 Special Problems of Sociology

***Health and Physical Education***

- HED 1111 Special Health Problems  
 HED 1201 Special Health Problems  
 HED 1203 CPR  
 HED 1204 Standard First Aid  
 HED 1205 Standard First Aid—Instructor  
 HED 1206 Advanced First Aid and Emergency Care  
 HED 1207 CPR Instructor  
 HED 1300 Introduction to Health Education  
 HED 1301 Special Health Problems  
 HED 1310 Your Health Your Choice  
 HPE 1100 Individual Activity  
 HPE 1103 Water Skiing  
 HPE 1104 Fencing, Beginning  
 HPE 1107 Self Defense and Physical Conditioning, Beginning  
 HPE 1108 Self Defense and Physical Conditioning, Intermediate

- HPE 1109 Self Defense and Physical Conditioning, Advanced  
 HPE 1111 Scuba Diving  
 HPE 1114 Snow Skiing, Beginning  
 HPE 1117 Ice Skating, Beginning  
 HPE 1123 Physical Fitness, Beginning  
 HPE 1124 Physical Fitness, Intermediate  
 HPE 1125 Physical Fitness, Advanced  
 HPE 1126 Social Dance, Beginning  
 HPE 1134 Basic Course of American Square Dancing  
 HPE 1138 Clogging, Beginning  
 HPE 1140 Self Protection for Women  
 HPE 1141 Jogging  
 HPE 1147 Tennis, Beginning  
 HPE 1154 Tap Dancing, Beginning  
 HPE 1157 Jazz Dance, Beginning  
 HPE 1164 Yoga, Beginning  
 HPE 1170 Aerobics  
 HPE 1174 Rock Climbing  
 HPE 1176 Backpacking  
 HPE 1178 Horseback Riding, Beginning  
 HPE 1184 Swimming, Beginning  
 HPE 1185 Swimming, Advanced Beginner  
 HPE 1186 Swimming, Intermediate  
 HPE 1187 Swimming, "Swimmer"  
 HPE 1188 Swimming, Life Saving  
 HPE 1189 Water Safety Instructor  
 HPE 1190 Introduction to Golf I  
 HPE 1193 Slimnastics, Beginning  
 HPE 1194 Slimnastics, Intermediate  
 HPE 1195 Slimnastics, Advanced  
 HPE 1196 Gymnastics, Beginning  
 HPE 1197 Gymnastics, Intermediate  
 HPE 1198 Bowling, Beginning  
 HPE 2100 Bicycling  
 HPE 2112 Canoeing, Basic  
 HPE 2113 Canoeing, Rivers  
 HPE 2114 Canoeing, Basic, Whitewater

***Humanities***

- ART 1300 Introduction to Art I  
 ART 1301 Introduction to Art II  
 ART 1310 History of Art I  
 ART 1311 History of Art II  
 ART 1312 History of Art III  
 DRA 1300 Introduction to Drama  
 DRA 1307 Current Dramatic Events  
 DRA 2414 Film Criticism  
 \*FRE 2600 Intermediate French I  
 \*FRE 2601 Intermediate French II  
 \*GER 2600 Intermediate German I  
 \*GER 2601 Intermediate German II  
 HUM 1300 Ascent of Man  
 HUM 1305 Classic Fairy Tales  
 HUM 1314 The Novel  
 HUM 1319 Mythology  
 HUM 1324 Science Fiction  
 HUM 1329 Russian Literature and Culture  
 HUM 1330 Women's Images in Fiction  
 HUM 1500 Humanities: Classical to Medieval  
 HUM 1501 Humanities: Renaissance to Present  
 HUM 2320 Special Topics  
 LIT 2314 Contemporary Literature

LIT 2320 Special Topics  
 LIT 2324 The Bible as Literature  
 LIT 2504 British Literature, 1300-1800  
 LIT 2505 British Literature, 1800-Present  
 LIT 2514 American Literature, 1800-1900  
 LIT 2515 American Literature, 1900-Present

MUS 1314 Music Appreciation I  
 MUS 1315 Music Appreciation II  
 MUS 1316 Music Appreciation III  
 MUS 1404 Music Theory I  
 MUS 1405 Music Theory II  
 MUS 1406 Music Theory III  
 MUS 2404 History and Literature Music I  
 MUS 2405 History and Literature Music II  
 MUS 2406 History and Literature Music III  
 MUS 2407 Advanced Music Theory I  
 MUS 2408 Advanced Music Theory II  
 MUS 2409 Advanced Music Theory III

PHI 1500 Introduction to Philosophy  
 PHI 2500 Logic

\*SPA 2600 Intermediate Spanish I  
 \*SPA 2601 Intermediate Spanish II

SPH 1301 Persuasive Speaking  
 SPH 2300 Voice and Diction  
 SPH 2304 Public Speaking

*\*May be used towards Humanities requirements if both courses are completed.*

## **LABORATORY SCIENCES**

### ***Biological Sciences***

BIO 1500 Biological Science  
 BIO 1501 General Botany  
 BIO 1502 General Zoology  
 BIO 1503 Microbiology  
 BIO 1504 Human Anatomy and Physiology I  
 BIO 1505 Human Anatomy and Physiology II  
 BIO 2500 Introduction to Entomology  
 BIO 2501 Ornithology  
 BIO 2504 Selected Topics in Biology  
 BIO 2514 Vertebrate Zoology

### ***Physical Sciences***

CHM 1500 Introductory Chemistry  
 CHM 1501 Chemistry for the Health Professions I  
 CHM 1502 Chemistry for the Health Professions II  
 CHM 1504 General Chemistry I  
 CHM 1505 General Chemistry II  
 CHM 1506 General Chemistry III  
 CHM 2304 Special Problems  
 CHM 2604 Quantitative Chemical Analysis

CHM 2614 Organic Chemistry I  
 CHM 2615 Organic Chemistry II  
 GEL 1604 Physical Geology  
 GEL 2605 Historical Geology  
 GEO 1614 Introduction to Physical Geography  
 PHY 1400 Science and Society  
 PHY 1404 Physics I: Basic Mechanics  
 PHY 1405 Physics II: Elastic and Thermal Properties of Matter  
 PHY 1406 Physics III: Electricity & Magnetism  
 PHY 1407 Physics IV: Modern Physics  
 PHY 1500 Introduction to Astronomy  
 PHY 2504 General Physics I: Mechanics  
 PHY 2505 General Physics II: Molecular Physics and Waves  
 PHY 2506 General Physics III: Electricity and Magnetism  
 PHY 2607 General Physics IV: Optics and Modern Physics

### ***Mathematics***

MAT 1500 Mathematics for Modern Living  
 MAT 1504 College Algebra I  
 MAT 1505 College Algebra II  
 MAT 1514 Precalculus Mathematics I  
 MAT 1515 Precalculus Mathematics II  
 MAT 1516 Introductory Calculus  
 MAT 1524 Analytic Geometry and Calculus I  
 MAT 2504 Analytic Geometry and Calculus II  
 MAT 2505 Analytic Geometry and Calculus III  
 MAT 2506 Analytic Geometry and Calculus IV  
 MAT 2508 Ordinary Differential Equations  
 MAT 2514 Statistics I  
 MAT 2515 Statistics II  
 MAT 2590 Individual Study

*NOTE:* Electives are provided to enable an individual to select courses applicable to a senior institution in liberal arts and certain professional areas such as:

LIBERAL ARTS  
 PRE-BUSINESS AND PUBLIC ADMINISTRATION  
 PRE-ENGINEERING  
 PRE-LAW  
 PRE-DENTAL  
 PRE-EDUCATION (Elementary)  
 PRE-EDUCATION (Secondary)  
 PRE-JOURNALISM  
 PRE-MATHEMATICS  
 PRE-MEDICAL  
 PRE-OPTOMETRY  
 PRE-PHARMACOLOGY  
 PRE-TEXTILE

*Departmental course listings follow.*

## COURSES THAT TRANSFER

With the approval of senior institution.

### Accounting

The accounting courses are designed to develop the student's knowledge and understanding of fundamental and advanced principles and concepts of accounting; to develop the student's skill in recording data and operating machines needed on the job; and to familiarize the student with the areas in which accounting is used in the business community and the manner in which many businesses depend upon accounting as a management tool.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ACC	1604	Principles of Accounting I	5	2	6
ACC	1605	Principles of Accounting II	5	2	6
ACC	2626	Intermediate Accounting I	5	2	6
ACC	2627	Intermediate Accounting II	5	2	6

### Art

The Art Division seeks to provide an environment including both instruction and experience which will enable its students to define the visual statements they wish to make and to equip them with the skills to make them. The broad range of courses offered seeks to provide for the wide variety of experience, interest, aptitude and purpose of students. Opportunity for growth in skills, knowledge and appreciation are offered for both the beginning and the experienced student.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ART	1200	Fiber Dyes	0	4	2
ART	1202	Calligraphy	1	2	2
ART	1300	Introduction to Art I	3	0	3
ART	1301	Introduction to Art II	3	0	3
ART	1302	Art Education	2	2	3
ART	1303	Printmaking II	0	6	3
ART	1310	History of Art I	3	0	3
ART	1311	History of Art II	3	0	3
ART	1312	History of Art III	3	0	3
ART	1314	Basic Woodworking	0	6	3
ART	1315	Intermediate Woodworking	0	6	3
ART	1316	Advanced Woodworking	0	6	3
ART	1317	Furniture Restoration I	0	6	3
ART	1318	Furniture Restoration II	0	6	3
ART	1319	Furniture Restoration III	0	6	3
ART	1321	Printmaking I	0	6	3
ART	1322	Crafts	0	6	3
ART	1327	Sculpture I	0	6	3
ART	1328	Sculpture II	0	6	3
ART	1329	Sculpture III	0	6	3
ART	1332	Photographing Nature	2	2	3
ART	1333	Stained Glass	0	6	3
ART	1334	Painting I	0	6	3
ART	1335	Painting II	0	6	3
ART	1336	Painting III	0	6	3
ART	1344	Weaving I	0	6	3
ART	1345	Weaving II	0	6	3
ART	1346	Weaving III	0	6	3

ART	1347	Weaving IV	0	6	3
ART	1360	Raku	0	6	3
ART	1364	Ceramics I	0	6	3
ART	1365	Ceramics II	0	6	3
ART	1366	Ceramics III	0	6	3
ART	1374	Jewelry I	0	6	3
ART	1375	Jewelry II	0	6	3
ART	1376	Jewelry III	0	6	3
ART	1384	Basic Camera Techniques	3	0	3
ART	1385	Photo Lab Processes I	1	4	3
ART	1386	Photo Lab Processes II	1	4	3
ART	1389	Color Printing I	1	4	3
ART	1390	Color Printing II	1	4	3
ART	1392	Advanced Camera Techniques	0	3	3
ART	1393	Visual Aids	2	2	3
ART	1404	General Drawing I	2	4	4
ART	1405	General Drawing II	2	4	4
ART	1406	General Drawing III	2	4	4
ART	1424	Design I	2	4	4
ART	1425	Design II	2	4	4
ART	1426	Design III	2	4	4
ART	2300	Advanced Stained Glass	0	6	3
ART	2304	Independent Studio	0	6	3
ART	2322	Surface Design for Textiles	0	6	3

### Behavioral and Social Sciences

The courses offered in this department are designed to enable students to understand the social, cultural, psychological, political and historical development of society. Emphasis is placed upon how to apply social science principles to modern life.

#### ANTHROPOLOGY

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
ANT	1502	General Anthropology	5	0	5

#### EDUCATION

EDU	2500	Introduction to Education	5	0	5
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#### GENERAL STUDIES

GEN	1300	Career Planning	3	0	3
GEN	1512	Divorce	5	0	5

#### HISTORY

HIS	1500	World Civilization I	5	0	5
HIS	1501	World Civilization II	5	0	5

#### POLITICAL SCIENCE

POL	1502	American Politics	5	0	5
POL	1510	Intro. to Comparative Politics	5	0	5
POL	1511	Intro. to International Relations	5	0	5
POL	2104-2504	Special Topics in Political Science	1 to 5		
POL	2500	State and Local Politics	5	0	5
POL	2501	Political Ideologies	5	0	5

(Continued on next page)



**PSYCHOLOGY**

PSY	1500	Psychology of Adjustment	5	0	5
PSY	2500	Educational Psychology	5	0	5
PSY	2504	General Psychology	5	0	5
PSY	2505	Human Development	5	0	5
PSY	2514	Abnormal Psychology	5	0	5
PSY	2524	Mental Retardation	5	0	5
PSY	2536	Special Problems in Psychology	5	0	5

**SOCIOLOGY**

SOC	1301	Group Interaction	3	0	3
SOC	1500	Sociology of the Family	5	0	5
SOC	2514	Introduction to Sociology	5	0	5
SOC	2515	Social Problems	5	0	5
SOC	2524	Special Problems of Sociology	5	0	5

*NOTE:* Courses beginning with a 1 or 2 are considered transfer courses.

**Biology**

The Biology curriculum is designed to prepare students for professional careers in the life sciences and related areas; to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data and to be thorough in considering all aspects of a problem; to impart knowledge of the fauna and flora of this region for aesthetic as well as functional usage; to understand the role of the life sciences in mastering environments; to help students recognize themselves as highly complex members of the living world for which they are responsible; to help students become more knowledgeable citizens, parents and leaders.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BIO	1500	Biological Science	3	4	5
BIO	1501	General Botany	3	4	5
BIO	1502	General Zoology	3	4	5
BIO	1503	Microbiology	3	4	5
BIO	1504	Human Anatomy and Physiology I	3	4	5
BIO	1505	Human Anatomy and Physiology II	3	4	5
BIO	2300	Genetics	3	0	3
BIO	2304	Human Nutrition	3	0	3
BIO	2305	Dental Nutrition	3	0	3
BIO	2500	Introduction to Entomology	3	4	5
BIO	2501	Ornithology	3	4	5
BIO	2504	Selected Topics in Biology	3	4	5
BIO	2514	Vertebrate Zoology	3	4	5

**Business Administration**

The Business Administration courses which are transferable to four-year colleges and universities should provide students with the necessary background in business law, economics and management to enroll in junior and senior level business courses at the receiving college. However, students should consult the catalog of the receiving college or university for its requirements.

**COURSE TITLE**

	HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BUS 1400 Introduction to Business	3	2	4
BUS 2304 Business Law I	3	0	3
BUS 2305 Business Law II	3	0	3
BUS 2306 Business Law III	3	0	3
ECO 2304 Economics I (Macro)	3	0	3
ECO 2305 Economics II (Micro)	3	0	3
ECO 2306 Economics III	3	0	3
MGT 2314 Principles of Management	3	0	3
MKT 1304 Marketing I	3	0	3
MKT 1305 Marketing II	3	0	3

*NOTE:* Courses beginning with a 1 or a 2 are considered transfer courses

**Computer Science**

The Computer Science Department offers courses for college transfer students to meet Computer Science requirements and/or to use as electives. Students should see an adviser or counselor in their major area or a member of the Computer Science faculty to determine the appropriate sequence to meet their objectives.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
EDP 1404	Computer Concepts and FORTRAN Programming I	3	2	4	
EDP 1405	FORTRAN Programming II	3	2	4	
EDP 2306	Computer Programming I (Business)	2	2	3	
EDP 2307	Computer Programming II (Business)	2	2	3	
EDP 2308	Computer Systems and Assembly Language I	2	2	3	
EDP 2309	Computer Systems and Assembly Language II	2	2	3	
EDP 2514	Statistical and Numerical Programming	4	2	5	

**General Studies**

General Studies [GEN] courses provide students with specific study of general interest. These courses carry college credit. Ten hours of GEN courses may be applied toward the Associate in Arts or Associate in Applied Sciences Degrees. GEN courses originate in and are taught through the various College departments.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
GEN 1140	Field Biology		0	22	1
GEN 1141	Intro. to Nature Photography		0	22	1
GEN 1142	Field Biology/Ecology of North Carolina		0	22	1
GEN 1143	Edible Wild Plants		5	12	1
GEN 1144	Ecology by Canoe		0	22	1
GEN 1148	Field Identification of Insects		0	22	1
GEN 1149	Field Ornithology		0	22	1

*NOTE:* Courses beginning with a 1 or a 2 are considered transfer courses.

# Health and Physical Education

The Health and Physical Education curriculum is designed to provide instruction which will lead to healthful living and to provide experience in physical activities which will lead to acquisition of skill and fitness with leisure-time or recreational value.

## HEALTH

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
HED 1111	Special Health Problems		1	0	1
HED 1201	Special Health Problems		2	0	2
HED 1203	Cardiopulmonary Resuscitation (CPR)		2	0	2
HED 1204	Standard First Aid		1	2	2
HED 1205	Standard First Aid—Instructor		1	2	2
HED 1206	Advanced First Aid and Emergency Care		1	2	2
HED 1207	CPR Instructor		2	0	2
HED 1300	Intro. to Health Education		3	0	3
HED 1301	Special Health Problems		3	0	3
HED 1310	Your Health - Your Choice		2	2	3
HED 2204	Prevention and Treatment of Injuries at Recreational Events		1	2	2

## PHYSICAL EDUCATION SKILLS

HPE 1100	Individual Activity		0	3	1
HPE 1103	Water Skiing		0	3	1
HPE 1104	Fencing, Beginning		0	3	1
HPE 1105	Fencing, Intermediate		0	3	1
HPE 1106	Fencing, Advanced		0	3	1
HPE 1107	Self Defense and Physical Conditioning, Beginning		0	3	1
HPE 1108	Self Defense and Physical Conditioning, Intermediate		0	3	1
HPE 1109	Self Defense and Physical Conditioning, Advanced		0	3	1
HPE 1111	Scuba Diving		0	3	1
HPE 1114	Snow Skiing, Beginning		0	3	1
HPE 1115	Snow Skiing, Intermediate		0	3	1
HPE 1116	Snow Skiing, Advanced		0	3	1
HPE 1117	Ice Skating, Beginning		0	3	1
HPE 1118	Ice Skating, Intermediate		0	3	1
HPE 1119	Ice Skating, Advanced		0	3	1
HPE 1123	Physical Fitness, Beginning		0	3	1
HPE 1124	Physical Fitness, Intermediate		0	3	1
HPE 1125	Physical Fitness, Advanced		0	3	1
HPE 1126	Social Dance, Beginning		0	3	1
HPE 1127	Social Dance, Advanced Beginner		0	3	1
HPE 1128	Social Dance, Intermediate		0	3	1
HPE 1129	Social Dance, Advanced		0	3	1
HPE 1134	Basic Course of American Square Dance		0	3	1
HPE 1135	Extended Basic Course of American Square Dancing		0	3	1
HPE 1136	Advanced Basic Course of American Square Dancing		0	3	1
HPE 1138	Clogging, Beginning		0	3	1
HPE 1139	Clogging, Intermediate		0	3	1
HPE 1140	Self Protection for Women		0	3	1

HPE 1141	Jogging		0	3	1
HPE 1147	Tennis, Beginning		0	3	1
HPE 1148	Tennis, Intermediate		0	3	1
HPE 1149	Tennis, Advanced		0	3	1
HPE 1150	Exercise for the Handicapped		0	3	1
HPE 1154	Tap Dancing, Beginning		0	3	1
HPE 1155	Tap Dancing, Intermediate		0	3	1
HPE 1156	Tap Dancing, Advanced		0	3	1
HPE 1157	Jazz Dance, Beginning		0	3	1
HPE 1158	Jazz Dance, Intermediate		0	3	1
HPE 1159	Jazz Dance, Advanced		0	3	1
HPE 1164	Yoga, Beginning		0	3	1
HPE 1165	Yoga, Intermediate		0	3	1
HPE 1166	Yoga, Advanced		0	3	1
HPE 1170	Aerobics		0	3	1
HPE 1174	Rock Climbing		0	3	1
HPE 1175	Techniques of Lead Climbing		0	3	1
HPE 1176	Introduction to Backpacking		0	3	1
HPE 1177	Wilderness Skills		0	3	1
HPE 1178	Horseback Riding, Beginning		0	3	1
HPE 1179	Horseback Riding, Advanced		0	3	1
HPE 1184	Swimming, Beginner		0	3	1
HPE 1185	Swimming, Advanced Beginner		0	3	1
HPE 1186	Swimming, Intermediate		0	3	1
HPE 1187	Swimming, "Swimmer"		0	3	1
HPE 1188	Life Saving		0	3	1
HPE 1189	Water Safety Instruction		0	3	1
HPE 1190	Introduction to Golf I		0	3	1
HPE 1191	Introduction to Golf II		0	3	1
HPE 1193	Slimnastics, Beginning		0	3	1
HPE 1194	Slimnastics, Intermediate		0	3	1
HPE 1195	Slimnastics, Advanced		0	3	1
HPE 1196	Gymnastics, Beginning		0	3	1
HPE 1197	Gymnastics, Intermediate		0	3	1
HPE 1198	Bowling, Beginning		0	3	1
HPE 1199	Bowling, Intermediate		0	3	1
HPE 1214	Water Activities		1	3	2
HPE 1404	Intro. to Recreation Services		3	3	4
HPE 1504	Relays and Games of Low Organization and Team Sports		3	6	5
HPE 2100	Bicycling		0	3	1
HPE 2112	Canoeing, Basic		0	3	1
HPE 2113	Canoeing Rivers		0	3	1
HPE 2114	Canoeing, Basic White Water		0	3	1
HPE 2200	Sports Officiating		1	3	2
HPE 2314	Individual Lifetime Recreational Activities		2	3	3
HPE 2315	Scheduling Special Events and Tournaments		2	3	3
HPE 2325	Intro. to Outdoor Recreation		2	3	3
HPE 2424	Program Planning and Organization		3	3	4
HPE 2434	Recreation and Special Populations		3	3	4
HPE 2445	Principles of Physical Fitness		3	3	4

NOTE: Courses beginning with a 1 or a 2 are considered transfer courses.

## Mathematics

The Mathematics courses are designed to prepare students for professional careers in mathematics and related areas, to develop student knowledge and understanding of the fundamental principles and concepts of mathematics, to

develop manipulative skills and the ability to apply mathematics to physical situations, and to satisfy the requirements of other college programs.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MAT 1500	Mathematics for Modern Living		5	0	5
MAT 1504	College Algebra I		5	0	5
MAT 1505	College Algebra II		5	0	5
MAT 1514	Precalculus Mathematics I		5	0	5
MAT 1515	Precalculus Mathematics II		5	0	5
MAT 1516	Introductory Calculus		5	0	5
MAT 1524	Analytic Geometry and Cal. I		5	0	5
MAT 2504	Analytic Geometry and Cal. II		5	0	5
MAT 2505	Analytic Geometry and Cal. III		5	0	5
MAT 2506	Analytic Geometry and Cal. IV		5	0	5
MAT 2508	Ordinary Differential Equations		5	0	5
MAT 2514	Statistics I		5	0	5
MAT 2515	Statistics II		5	0	5
MAT 2590	Individual Study		5	0	5

NOTE: Courses beginning with a 1 or a 2 are considered transfer courses.

## Performing Arts

### DANCE

The Dance courses emphasize strong technique classes and performing opportunities. Both modern and ballet are offered daily at all levels of accomplishment. Adult beginners may learn with people of their own age, and the more accomplished can maintain their rate of growth and perfection. Dance Source courses bring national and ethnic techniques forward, and choreography classes explore movement and develop structuring skills. Production classes feature performances each quarter, and it is here in the final product that a creative and skilled dancer can find rewards.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
DAN 1183	Introduction to Modern Dance		0	3	1
DAN 1184	Modern Dance I		0	3	1
DAN 1185	Modern Dance II		0	3	1
DAN 1186	Modern Dance III		0	3	1
DAN 1193	Introduction to Ballet		0	3	1
DAN 1194	Ballet I		0	3	1
DAN 1195	Ballet II		0	3	1
DAN 1196	Ballet III		0	3	1
DAN 1197	Ballet Pointe Work		0	3	1
DAN 1280	Dance for Musical Theatre		0	4	2
DAN 1290	Dance Sources		1	2	2
DAN 2184	Advanced Modern Dance I		0	3	1
DAN 2185	Advanced Modern Dance II		0	3	1
DAN 2186	Advanced Modern Dance III		0	3	1
DAN 2194	Advanced Ballet I		0	3	1
DAN 2195	Advanced Ballet II		0	3	1
DAN 2196	Advanced Ballet III		0	3	1
DAN 2284	Choreography I		0	4	2
DAN 2285	Choreography II		0	4	2
DAN 2286	Choreography III		0	4	2
DAN 2384	Dance Seminar		2	2	3
DAN 2388	Dance Production I		0	12	3

### DRAMA

The Drama courses permit students to learn theater practice and theories by involving them in regular College theater productions. They have the opportunity to learn basic backstage procedures in addition to acting in plays. Basic theater courses in play production, stagecraft, theater history, acting, directing, and scene design are open to all students. The College theater productions are correlated with course activities whenever possible.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
DRA 1300	Introduction to Drama		3	0	3
DRA 1301	Stagecraft		1	4	3
DRA 1302	Scene Design		1	4	3
DRA 1303	Acting		1	4	3
DRA 1304	Advanced Acting		1	4	3
DRA 1307	Current Dramatic Events		3	0	3
DRA 1310	Play Production, One Acts		0	12	3
DRA 1311	Play Production, Comedy/ Drama		0	12	3
DRA 1312	Play Production, Musical		0	12	3
DRA 2204	Special Problems in Drama		1	3	2
DRA 2303	Acting for the Camera		1	4	3
DRA 2304	Directing		1	4	3
DRA 2311	Advanced Play Production, Comedy/Drama		0	12	3
DRA 2312	Advanced Play Production, Musical		0	12	3
DRA 2414	Film Criticism		3	2	4

### MUSIC, APPLIED

Students may accumulate a total of nine quarter hours in any 1000 level applied music course which may be counted toward an AFA Degree. Students may also accumulate a total of nine quarter hours in any 2000 level applied music course which may be counted toward an AFA Degree. Any of these courses may be taken for cumulative credit for a maximum of nine quarter hours.

*Applied Music:* Upon completion of each course, students should have made significant improvement in technique and have mastered selected literature for the instrument. Audition is required before registering.

Non-Transferable		1		2		3	
Applied Music		Credit		Credits		Credits	
Piano	MUA 9100	MUA 1100	MUA 1200	MUA 1300			
Organ	MUA 9101	MUA 1101	MUA 1201	MUA 1301			
Voice	MUA 9102	MUA 1102	MUA 1202	MUA 1302			
Harpisichord	MUA 9103	MUA 1103	MUA 1203	MUA 1303			
Harp	MUA 9104	MUA 1104	MUA 1204	MUA 1304			
Violin	MUA 9105	MUA 1105	MUA 1205	MUA 1305			
Guitar	MUA 9106	MUA 1106	MUA 1206	MUA 1306			
Percussion	MUA 9107	MUA 1107	MUA 1207	MUA 1307			
Flute	MUA 9108	MUA 1108	MUA 1208	MUA 1308			
Trumpet	MUA 9109	MUA 1109	MUA 1209	MUA 1309			
Trombone	MUA 9110	MUA 1110	MUA 1210	MUA 1310			
String Bass	MUA 9111	MUA 1111	MUA 1211	MUA 1311			

*Advanced Applied Music:* Upon completion of each course, students should have made further improvements in technical and musical skills and have mastered a more advanced

(Continued on next page)



level of literature for the instrument. Audition is required before registering.

	1 Credit	2 Credits	3 Credits
Advanced Applied Music			
Piano	MUA 2100	MUA 2200	MUA 2300
Organ	MUA 2101	MUA 2201	MUA 2301
Voice	MUA 2102	MUA 2202	MUA 2302
Harpsichord	MUA 2103	MUA 2203	MUA 2303
Harp	MUA 2104	MUA 2204	MUA 2304
Violin	MUA 2105	MUA 2205	MUA 2305
Guitar	MUA 2106	MUA 2206	MUA 2306
Percussion	MUA 2107	MUA 2207	MUA 2307
Flute	MUA 2108	MUA 2208	MUA 2308
Trumpet	MUA 2109	MUA 2209	MUA 2309
Trombone	MUA 2110	MUA 2210	MUA 2310
String Bass	MUA 2111	MUA 2211	MUA 2311

## MUSIC

The Music courses are designed to provide opportunities for the greatest number of students to share in the heritage of musical culture and skills. Emphasis is placed on creative participation in performance and upon music as a medium of communication. Music is also studied as a reflection of the cultures that created it—whether present or past.

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
MUS 1100	Vocal Ensemble		0	3	1
MUS 1104	Class Voice I		0	2	1
MUS 1105	Class Voice II		0	2	1
MUS 1107	Chamber Choir		0	3	1
MUS 1112	Class Strings		0	3	1
MUS 1117	Wind Ensemble		0	3	1
MUS 1122	Fiddle—Blue Grass & Old-Time		0	3	1
MUS 1127	Orchestra		0	3	1
MUS 1128	Concert Band		0	4	1
MUS 1132	Introduction to Sight Singing and Ear Training		0	2	1
MUS 1133	Banjo—Old-Time Music		0	3	1
MUS 1136	Clawhammer Banjo II		0	3	1
MUS 1139	Old-Time Music "Jam"		0	3	1
MUS 1154	Class Piano I		0	3	1
MUS 1155	Class Piano II		0	3	1
MUS 1156	Class Piano III		0	3	1
MUS 1157	Intermediate Piano		0	3	1
MUS 1160	Classical and Flamenco Guitar		0	3	1
MUS 1164	Guitar		0	3	1
MUS 1165	Intermediate Guitar		0	3	1
MUS 1166	Folk Music Guitar I		0	3	1
MUS 1167	Folk Music Guitar II		0	3	1
MUS 1171	Chords I		0	2	1
MUS 1172	Chords II		0	2	1
MUS 1188	Hammered Dulcimer		0	3	1
MUS 1189	Autoharp		0	3	1
MUS 1304	Children's Music I		3	0	3
MUS 1305	Children's Music II		3	0	3
MUS 1310	Introduction to Music Theory		3	0	3
MUS 1314	Music Appreciation I		3	0	3
MUS 1315	Music Appreciation II		3	0	3
MUS 1316	Music Appreciation III		3	0	3
MUS 1320	Music for Dancers I		3	0	3
MUS 1321	Music for Dancers II		3	0	3
MUS 1324	Recording Studio Technique I		3	0	3
MUS 1325	Recording Studio Technique II		0	6	3
MUS 1326	Recording Studio Technique III		0	6	3

MUS 1334	Music Manuscript Autography and Preparation	2	2	3
MUS 1404	Music Theory I	3	2	4
MUS 1405	Music Theory II	3	2	4
MUS 1406	Music Theory III	3	2	4
MUS 2000	Seminar in Music	TBA		1
MUS 2100	Seminar in Music	TBA		1
MUS 2154	Advanced Class Piano I	0	3	1
MUS 2155	Advanced Class Piano II	0	3	1
MUS 2156	Advanced Class Piano III	0	3	1
MUS 2158	Piano Ensemble	0	3	1
MUS 2200	Seminar in Music	TBA		2
MUS 2201	Business of Music	2	0	2
MUS 2202	Songwriting	2	0	2
MUS 2204	Special Problems in Music	1	3	2
MUS 2257	Jazz Piano I	1	3	2
MUS 2258	Jazz Piano II	1	3	2
MUS 2300	Seminar in Music	TBA		3
MUS 2338	Opera Workshop	0	6	3
MUS 2404	History & Literature of Music I	3	2	4
MUS 2405	History & Literature of Music II	3	2	4
MUS 2406	History & Lit. of Music III	3	2	4
MUS 2407	Advanced Music Theory I	3	2	4
MUS 2408	Advanced Music Theory II	3	2	4
MUS 2409	Advanced Music Theory III	3	2	4

NOTE: A maximum of six quarter hours of choral and/or instrumental ensemble may be counted toward an A.A. Degree.

## Physical Science

The Physical Science courses are designed to prepare students for the professional courses in science and related areas, to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data, to be thorough in considering all aspects of a problem; to prepare people to live in a complex society; to impart knowledge of scientific facts; and to promote an understanding of the contributions that physical science has made and is making to the ability to master the environment.

## CHEMISTRY

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
CHM1500	Introduction to Chemistry	3	4	5
CHM1501	Chemistry for Health Professions I	3	4	5
CHM1502	Chemistry for Health Professions II	3	4	5
*CHM1504	General Chemistry	3	4	5
*CHM1505	General Chemistry II	3	4	5
*CHM1506	General Chemistry III	3	4	5
CHM2.04	Special Problems	TBA		
CHM2414	Introductory Organic Chemistry	4	0	4
*CHM2455	Textile Coloring and Testing	2	4	4
*CHM2604	Quantitative Chemical Analysis	3	6	6
*CHM2614	Organic Chemistry I	4	4	6
*CHM2615	Organic Chemistry II	4	4	6
*CHM2615	Organic Chemistry II	4	4	6
*CHM2625	Chromatography	3	6	6
*CHM2626	Optical Methods Chemical Analysis	3	6	6

## GEOLOGY

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**GEOLOGY**

GEL	1604	Physical Geology	5	2	6
GEL	2605	Historical Geology	5	2	6

**GEOGRAPHY**

GEO	1614	Intro. to Physical Geography	5	2	6
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**PHYSICS**

PHY	1300	Science and Society	3	0	3
PHY	1400	Science and Society	3	2	4
PHY	1404	Physics I: Basic Mechanics	3	2	4
PHY	1405	Physics II: Elastic and Thermal Property of Matter	3	2	4
PHY	1406	Physics III: Electricity and Magnetism	3	2	4
PHY	1407	Physics IV: Modern Physics	3	2	4
PHY	1500	Introduction to Astronomy	4	2	5
PHY	2504	General Physics I: Mechanics	4	2	5
PHY	2505	General Physics II: Molecular Physics and Waves	4	2	5
PHY	2506	General Physics III: Electricity and Magnetism	4	2	5
PHY	2507	General Physics IV: Optics and Modern Physics	4	2	5

**NOTE:** The Associate in Arts Degree in Chemical Technology is no longer offered. However, it is possible for students to concentrate their efforts in chemistry preparing to transfer to a four-year Chemistry/Chemical Engineering program or to enter the chemical industry after receiving the transfer Associate in Arts Degree.

To accomplish this, students should take the chemistry courses marked by the asterisks and MAT 1514, MAT 1515, MAT 1516 and PHY 1404, PHY 1405, PHY 1406 or PHY 2504, PHY 2505, PHY 2506.

## Reading, Speech and Foreign Languages

Courses in speech are designed to help students develop their skills in making both formal and informal oral presentations before an audience, in serving on panels, and in participating in group discussions. Foreign language courses give students an opportunity to develop proficiency in French, Spanish and German.

FRE 2600 and FRE 2601, or SPA 2600 and SPA 2601, or GER 2600 and GER 2601 will satisfy the humanities requirement if both courses in a foreign language are completed.

**FRENCH**

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
FRE	1300	Travel French	3	0	3
FRE	1600	Elementary French I	5	2	6
FRE	1601	Elementary French II	5	2	6
FRE	2320	Special Topics	3	0	3
FRE	2600	Intermediate French I	5	2	6
FRE	2601	Intermediate French II	5	2	6

**GERMAN**

GER	1600	Elementary German I	5	2	6
GER	1601	Elementary German II	5	2	6
GER	2600	Intermediate German I	5	2	6
GER	2601	Intermediate German II	5	2	6

**SPANISH**

SPA	1300	Travel Spanish	3	0	3
SPA	1600	Elementary Spanish I	5	2	6
SPA	1601	Elementary Spanish II	5	2	6
SPA	2320	Special Topics	3	0	3
SPA	2600	Intermediate Spanish I	5	2	6
SPA	2601	Intermediate Spanish II	5	2	6

**SPEECH**

SPH	1300	Oral Communications	3	0	3
SPH	1301	Persuasive Speaking	3	0	3
SPH	2101	Parliamentary Procedure	1	0	1
SPH	2300	Voice and Diction	3	0	3
SPH	2304	Public Speaking	3	0	3

## Writing and Humanities

Communications courses help students improve their writing and thinking skills. Students read to observe development of ideas and techniques of expression. They also engage in discussion to find a logical relationship between idea and expression. They write and participate in class discussions to develop their own skills in clear, accurate and effective use of language.

Humanities, literature and philosophy courses offer students opportunities—through reading, researching and discussing—to explore a wide range of ideas and values, to recognize their own needs as human beings, and ultimately to gain some perspective for making choices as individuals and members of society. All courses with HUM, LIT and PHI prefixes count toward the humanities requirement.

**COMMUNICATIONS**

COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
COM	1304	Introduction to Communications	3	0	3
COM	1305	English Composition II	3	0	3
COM	1306	English Composition II	3	0	3
COM	1324	Creative Writing	3	0	3
COM	1325	Advanced Creating Writing	3	0	3
COM	2390	Individual Study	3	0	3

**HUMANITIES**

HUM	1300	The Ascent of Man	3	0	3
HUM	1305	Classic Fairy Tales	3	0	3
HUM	1314	The Novel	3	0	3
HUM	1319	Mythology	3	0	3
HUM	1324	Science Fiction	3	0	3
HUM	1329	Russian Literature and Culture	3	0	3
HUM	1330	Women's Images in Fiction	3	0	3
HUM	1500	Humanities: Classical to Medieval	5	0	5
HUM	1501	Humanities: Renaissance to Present	5	0	5
HUM	2320	Special Topics	3	0	3

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## JOURNALISM

### COURSE TITLE

JOU 1300 News Writing

HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
2	3	3

## LITERATURE

LIT 2314 Contemporary Literature  
LIT 2320 Special Topics  
LIT 2324 The Bible as Literature

3	0	3
3	0	3
3	0	3

LIT 2504	British Literature: 1300-1800	5	0	5
LIT 2505	British Literature: 1800-Present	5	0	5
LIT 2514	American Literature: 1800-1900	5	0	5
LIT 2515	American Literature: 1900-Present	5	0	5

## PHILOSOPHY

PHI 1500	Introduction to Philosophy	5	0	5
PHI 2500	Logic	5	0	5







# Continuing Education Program

This program provides education for adults who have not graduated from high school (see the Academic Information section); for those who need short-term training, retraining or upgrading in a vocational or professional area; and for those who want enrichment instruction in life management or leisure activities. Businesses, associations, clubs and individuals often help the College design new courses to meet the changing needs of a growing community.

CPCC awards a Certificate upon completion in some cases, and non-College agencies offer licenses, diplomas or other forms of recognition in other cases.

Students may earn Continuing Education Units (CEUs) for courses numbered in the 7000s and 8000s. Teacher Renewal Units for Mecklenburg teachers may be approved through the Charlotte-Mecklenburg School Administration, Staff Development Center/In-Service; for information, call 376-0122.

Cost per course is listed in the quarterly CPCC Class Schedule. Some courses are self-supporting (no State funds involved) and others have modest charges or no charge at all.

For more information, call 373-6575.

## Occupational Extension

These are short-term training courses for training, retraining or upgrading in a vocational or technical area.

Examples include:

- **SUPERVISORY DEVELOPMENT TRAINING:** Human Relations, Communications, Speaking, Work Measurement, Supervision, Motivation, Industrial Safety.
- **FIRE SERVICE TRAINING:** Sessions are held in local fire departments, allowing firemen to be trained in the use of equipment they will use in fire-fighting. CPCC offers an Associate Degree in Fire Service Technology.
- **LAW ENFORCEMENT TRAINING:** Basic Law Enforcement and special seminars are held to meet specific needs. CPCC awards an Associate Degree in Police Science.
- **MISCELLANEOUS TRAINING:** Banking, Blueprint Reading, Health Training, Sewing, Upholstering, Insurance, Construction, Arts and Crafts, Institutional House-keeping, Salesmanship.
- **APPRENTICESHIP AND LICENSURE TRAINING:** These students usually are working in a trade during the day and take related classroom instruction at CPCC at

night. Electricity, Sheetmetal, Bricklaying (beginning), Hotel/Motel Management, Carpentry (beginning), Plumbing and Steamfitting, Small Engine Repair.

- **CONTRACTUAL PROGRAMS:** The College contracts with various local, state and federal agencies to provide specific training for students selected and referred by the agency. For information, call 373-6864.
- **JOB TRAINING PARTNERSHIP ACT:** Under the provisions of the Job Training Partnership Act, persons who are unemployed or under-employed are eligible for certain types of training.

In cooperation with the Private Industry Council, the State Job Training Coordinating Council, and the Employment Security Commission of North Carolina, the College offers specialized course work as scheduled by these agencies.

## Enrichment

For pastime and pleasure, these avocation/recreation courses typically offer auto care, sports instruction, crafts, personal typing, conversational languages, history, religions, and layman's law instruction.





# Skills Improvement Courses

## Advancement Studies

## International Culture

## Reading

The flexibility and diversity of CPCC's course offerings are well demonstrated by the Skills Improvement courses which are designed to meet the individual needs of the CPCC population. These programs and courses are in three main areas: Advancement Studies, International Culture, and Reading.

### ADVANCEMENT STUDIES DIVISION

The Advancement Studies Division is based on the philosophy that each student has unique educational needs and goals. Once these goals are identified, they can best be accomplished by allowing students to progress at their own pace in an open, caring atmosphere. This atmosphere is marked by its acceptance of each student as a unique individual who has specific needs.

Each course in the Advancement Studies Division has stated objectives, with a system designed to help each individual accomplish those objectives. Students may advance at their own pace from one objective to the next through individual modules of instruction, individualized multi-sensory programs and instructors who coordinate each learning segment.

Advancement Studies may be conceived as a developmental studies program for students who have never reached mastery level in mathematics, biology, chemistry, writing skills or study skills. The program also may be thought of as a new opportunity for students who have decided to refine some of their skills or change their life-style through learning. At the same time, this program operates as a service program for the entire College by offering courses with fundamental skills, as well as courses with more advanced skills, depending upon the requests and desires of students and other departments. Advancement Studies recognizes that learning is a life-long process and new skills may be learned at any life stage.

Credit is granted for accomplishment of terminal objectives. These credits will receive grade points that add to a student's cumulative grade point average. Some credits earned in the Advancement Studies Division meet requirements for the Associate in General Education Degree. Credits for Advancement Studies may or may not transfer to another institution depending on the course and the receiving institution.

COURSE TITLE		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
BIO	9500 Introduction to Biology	5	0	5
CHM	9500 Fundamentals of Chemistry	0	10	5
DRG	9502 Basic Calculations for Drug Administration	5	0	5

ENG	9500	Effective Sentence Writing	5	5	5
ENG	9505	Spelling and Vocabulary	5	0	5
ENG	9510	Fundamentals of Writing	5	0	5
LLB	9200	Classroom Success	0	3	2
MAT	9500	Arithmetic	0	10	5
MAT	9502	Algebra I	0	10	5
MAT	9510	Developmental Algebra	5	0	5
MAT	9511	Modern Geometry	5	0	5
PTL	9000	Peer Tutoring Lab	0	3	0

### INTERNATIONAL CULTURE DEPARTMENT

The International Culture Department offers courses which enable students to master English As A Second Language. This program also enables students to study the customs and traditions of American culture while learning the language. All students in the program will have the opportunity to take other academic and/or vocational courses when their language proficiency allows it. English As A Second Language courses in the International Culture Department are listed as ESL. Central Piedmont Community College is a TOEFL (Test of English as a Foreign Language) Testing Center. This TOEFL Center also serves the Charlotte Area Educational Consortium.

The following is a suggested sequence of required courses:

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>FIRST QUARTER</b>				
ESL	9102	Basic Survival ESL	0	2 1
*ESL	9201	Driver's Education	2	0 2
ESL	9310	English Handwriting	3	0 3
ESL	9504	Conversational English I <i>or</i>		
	9505	Conversational English II	3	4 5
ESL	9514	Grammar I <i>or</i>		
	9515	Grammar II	3	4 5
ESL	9524	Vocabulary	<u>3</u>	<u>4</u> <u>5</u>
				19

		HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
<b>SECOND QUARTER</b>				
ESL	9301	English Through Music <i>or</i>		
	9303	The American Way	3	0 3
ESL	9505	Conversational English II <i>or</i>		
	9506	Conversational English III	3	4 5
ESL	9515	Grammar II <i>or</i>		
	9516	Grammar III	3	4 5
ESL	9525	Vocabulary II	<u>3</u>	<u>4</u> <u>5</u>
				18

(Continued on next page)

**THIRD QUARTER**

ESL 9303	The American Way <i>or</i>			
9301	English Through Music	3	0	3
*ESL 9304	American Citizenship	3	0	3
ESL 9506	Conversational English III	5	0	5
ESL 9516	Grammar III	3	4	5
ESL 9526	Vocabulary III <i>or</i>			
9534	Academic English I	<u>3</u>	<u>4</u>	<u>5</u>
				18

**FOURTH QUARTER**

*ESL 9190	Teaching ESL (for teachers of ESL)	1	0	1
ESL 9534	Academic English I ( <i>or</i> ESL 9526)	3	4	5
ESL 9544	TOEFL PREPARATION I	4	2	5
ESL 9545	TOEFL PREPARATION II	<u>4</u>	<u>2</u>	<u>5</u>
		11	8	15

*NOTE:* Students having TOEFL 450/Michigan 70 may add one course related to their major, but not more than 6 credits.

\*Optional, to be approved by department head, adviser or instructor, based on ESL proficiency.

**READING DEPARTMENT**

Reading permeates all programs, therefore, a high level of success in all subject matter areas is dependent upon the ability to read. The Reading Department is designed to prevent, correct and eliminate problems in reading. The diagnosis of reading difficulties followed by the use of instructor-assisted, self-paced, and multimedia materials for the foundation for reading instruction at CPCC.

The diversity of learner characteristics indicates varied levels of differentiated instruction geared to individual needs in order to accommodate all ability levels.

		COURSE TITLE			HRS CLS /WK	HRS LAB /WK	HRS CR/ QTR
RDN 9130	Basic Reading Skills				0	3	1
RDN 9212	Reading for College				2	0	2
RDN 9302	Advanced Vocabulary Improvement				3	0	3
RDN 9312	Speed Reading				3	0	3
RDN 9505	Reading Skills				5	0	5
RDN 9510	Reading Improvement				5	0	5





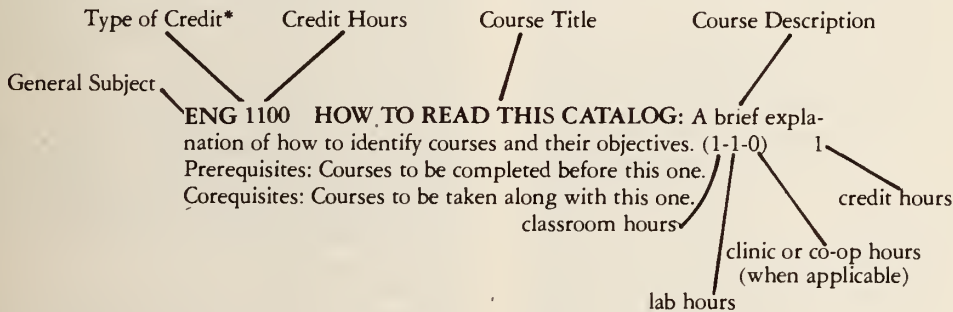
# Course Descriptions

This section contains brief course descriptions that tell what students may expect to be able to do upon completion.

*All courses are not taught each quarter. The CPCC Class Schedule lists which courses will be taught each quarter. The Schedule is printed by the CHARLOTTE OBSERVER in Mecklenburg County the last Sunday in February, May, August and November. Copies are also available at the Information/Admissions Center on campus and at the Area Learning Centers. Schedules will be mailed outside Mecklenburg County upon request by calling 704/373-6644 or writing to the Information/Admissions Center.*

The 3-letter/4-number prefix identifies a particular course. The three letters are usually an abbreviation of the teaching department—such as DFT, which precedes all drafting courses. Courses are alphabetical by these 3-letter designations.

The 4-number part of the prefix further identifies the course. The first number indicates the type of credit, as explained below.\* The second number indicates the number of credit hours awarded upon completion of the course. (If a line “—” appears here, credits for independent study are to be arranged between the student and the instructor.) The third and fourth numbers of the prefix have no significance for the student.



\*Further explanation of Type of Credit:

- 1 or 2 Associate in Arts, Associate in Fine Arts degree courses (two-year programs which are transferable to four-year colleges).
- 3 or 4 Associate in Applied Science degree courses (two-year studies which prepare for job entry).
- 5 Diploma (one-year) or certificate (less than one-year) courses which prepare for job entry.
- 6 Adult Basic Education, High School Completion, General Equivalence Diploma.
- 7 or 8 Occupational Extension/Continuing Education.
- 9 Developmental Studies in English, math, science, history and chemistry.

For a suggested sequence of study within a program, see the **CAREER PROGRAMS/TRANSFER PROGRAMS** sections toward the front of this Catalog.

The word “prerequisite” which follows some descriptions means that, before enrolling, the course(s) specified must first be completed successfully.

The word “corequisite” means that the course(s) specified may/should be taken at the same time.



## Accounting

**ACC 1604 Principles of Accounting I:** In this study of basic accounting principles and procedures, students will complete the accounting cycle for both service and merchandising enterprises. They will also study specialized areas such as notes, uncollectible accounts, inventories, plant assets, petty cash, bank reconciliation, and the voucher system. (5-2) 6

**ACC 1605 Principles of Accounting II:** In this continuing study of basic accounting principles and procedures, students will cover partnerships, corporations, and manufacturing concerns. They will prepare the statement of changes in financial position and consolidated financial statements. Prerequisite: ACC 1604. (5-2) 6

**ACC 2626 Intermediate Accounting I:** In addition to reviewing the accounting cycle, students will study the following topics: development of accounting standards; theory underlying financial accounting; preparation of financial statements; price level and current value accounting; accounting changes and correction of errors; accounting for cash, receivables, and short-term investments; inventory costing and valuation; and pensions and leases. Prerequisite: ACC 1605. (5-2) 6

**ACC 2627 Intermediate Accounting II:** In this continuing study of intermediate accounting, students will study various topics, including accounting for plant and intangible assets, long-term debt and investment, stockholders' equity and allocation of income taxes. Preparation of the statement of changes in financial position and financial statement analysis are also covered. Prerequisite: ACC 2626. (5-2) 6

**ACC 3304 Managerial Accounting:** Students will learn to use accounting data for planning and control. They will be acquainted with the stewardship responsibilities of management, the directing and problem-solving functions of accounting in relation to current planning and control, and the evaluation of performance, special decisions and long-range planning will be emphasized. Stress will be on analysis rather than record-keeping. Prerequisite: ACC 1604 and ACC 1605 or consent of department head. (3-0) 3

**ACC 3434 Hotel/Restaurant Accounting:** Students will demonstrate their ability to apply generally accepted accounting principles to the hospitality industry. Problems will be studied and solved in the following areas: uniform system of accounts for hotels; basic accounting controls; food, beverage and labor accounting principles and controls; specialized journals and ledgers; financial statements; voucher systems; budget planning; and credit systems. Prerequisite: ACC 1604. (3-2) 4

**ACC 3500 Small Business Accounting:** Upon satisfactory completion of this course, students should be able to describe the different types of business enterprise; describe the basic accounting cycle; demonstrate an understanding of financial analysis by calculating cash flow, working capital, current ratio, return on investment, earnings per share, inventory turnovers, etc.; establish, control and reconcile a bank account; calculate payrolls; complete required governmental reports such as quarterly returns; describe inventory control and methods of inventory; calculate asset depreciation, identify license requirements; and describe outside professional help available and when it should be used. (5-0) 5

**ACC 3600 General Accounting:** After completion of this course, students should be able to analyze, journalize, and post business transactions for service and merchandising organizations and complete the end-of-period financial statements. In addition to this basic study of the accounting cycle, they will

study other areas such as payrolls, bank reconciliations and petty cash funds. (5-2) 6

**ACC 4338 Accounting Problems:** Students will study APB opinions, research studies and FASB pronouncements while solving a wide variety of accounting problems adapted from recent CPA examinations. Worksheet techniques leading to efficient, accurate solutions will be developed. (3-0) 3

**ACC 4364 Budget and Record Keeping:** When this course is completed, students should be able to use historical accounting records to project future revenues and expenses; prepare budgets and use them for control purposes; apply budget procedures for departmental evaluation; prepare management reports and recommendations based on the budget; and analyze variances between budgeted and actual figures to determine responsibility for control. Prerequisite: ACC 1604. (3-0) 3

**ACC 4404 Auditing:** Students will study the theories and practices of auditing and also the generally accepted auditing standards and rules of professional conduct and legal liability. Students will solve numerous problems illustrating specific techniques of auditing various general ledger accounts. These problems will develop internal auditing concepts and procedures as well as the public accounting viewpoint. Current trends in financial statement preparation will be reviewed. Prerequisite: ACC 2627. (3-2) 4

**ACC 4414 Microcomputer Accounting:** Upon completion of this course, students will be able to: use the microcomputer to record transactions in the general ledger system; maintain an up-to-date file of customer accounts receivable; maintain an up-to-date file on creditor accounts payable; maintain a simple payroll system. In addition, they will be able to prepare financial statements and provide information reports for management use. Prerequisite: ACC 1605. (2-4) 4

**ACC 4425 Taxes—Business and Fiduciary:** In this study of federal and state income tax laws and regulations, students will demonstrate satisfactory competency in preparing business returns and fiduciary returns. Topics include: income tax withholding; reporting business or professional income for individuals, partnerships and corporations; researching and solving tax problems; applying federal and state laws for gifts and estates. Prerequisite: ACC 1605. (3-2) 4

**ACC 4434 Taxes—Individual:** Students will study current federal and state income tax laws and demonstrate their ability in finding, interpreting and applying the relevant laws in the preparation of individual income tax returns of moderate complexity. These returns will involve supporting schedules and forms necessary for reporting income, deductions and tax computations. Students will also demonstrate competency in solving problems in tax planning, minimizing taxes for the average taxpayer, and preparing declarations of estimated tax, extensions of time to file and amended tax returns. (3-2) 4

**ACC 4444 Cost Accounting:** In this study of manufacturing cost systems, students will study a variety of problems illustrating the principles and procedures of job order and process costing operations. The use of standard costs and other data for management control is included. Students will calculate and apply estimated overhead rates using a variety of bases. Prerequisite: ACC 1605. (3-2) 4

**ACC 4447 Advanced Accounting:** Students will solve a wide variety of problems illustrating advanced application of accounting principles and procedures. Topics include partnership accounting, branch accounting, accounting for mergers and consolidations, parent-auxiliary consolidations, estates and

trusts, and government accounting. Emphasis is placed on problem-solving techniques applying related APB and FASB pronouncements. Prerequisite: ACC 2627. (3-2) 4

## Advertising Design

**ADV 1300 Photography for Advertising:** Upon successful completion of this course, students will be able to use the view camera to control depth of field and distortion; produce technically professional photographs under studio lighting conditions; produce high contrast negatives and positives using the process camera; produce halftone negatives using the process camera. In addition, students will develop advanced laboratory skills, allowing them to produce a group of photographs to be used in their Advertising Design portfolio. Prerequisite: ART 1385. (1-4) 3

**ADV 3401 Illustration I:** Upon completion of this course, students should be able to: identify the types of illustrations in use today; execute preliminary comps for illustrations; make spot illustrations; execute illustrations with the use of mechanical drawing aids; and prepare full-color illustrations using a variety of media. Prerequisite: ART 1406 and ART 1426. (2-4) 4

**ADV 3404 Illustration II:** Upon completion of this course, students will have had structured experience in creating original illustrations for magazines, books, newspapers and other visual communications; will have worked creatively with a variety of art media such as acrylic paints, transparent watercolor and airbrush. They will have developed skills in drawing and painting the human form and will have guidance and experience equipping them to conduct a freelance illustration studio. Prerequisite: ADV 3401. (2-4) 4

**ADV 3414 Computer Assisted Design:** This course introduces students to microcomputers and their use in creating visual designs. Using selected software packages, students originate designs suitable for film-slide presentations and other visual communications. They will learn methods of transferring electronically produced designs to various projection devices and print media. Prerequisite: EDP 3310 or equivalent. (2-4) 4

**ADV 4214 Professional Practices and Procedures:** Upon completion of this course, students will be able to: describe the various types of business formations concerned with advertising design; outline the advantages and limitations of each. Students will also understand the importance of small business in the United States and its reasons for success or failure. Students will analyze small business operations such as buying, selling, pricing, record keeping, banking, etc. They will also understand legal responsibilities of ownership and operation of small businesses. Prerequisite: ADV 4425 and ADV 4415. (1-2) 2

**ADV 4300 Advertising Principles:** Upon completion of this course, students should be able to: describe the relationship of social and economic conditions to today's advertising; identify the advantages and limitations of major communications media; describe the operation and organization of an advertising agency; discuss the advertising spiral; and plan a small multi-media advertising campaign. (3-0) 3

**ADV 4310 Fashion Illustration I:** In this course, students will sketch wearing apparel in a variety of media and will use the human figure extensively in these illustrations. Prerequisite: ART 1406. (2-2) 3

**ADV 4311 Fashion Illustration II:** In this course, students will continue to broaden illustrative techniques and explore other subject matter such as accessories and furnishings in

addition to the figure, examining and reorganizing layout problems through the production stages. Prerequisite: ADV 4310. (2-2) 3

**ADV 4313 Cartooning and Caricaturing:** In this course, students will analyze techniques in cartooning and caricature, drawing and interpreting given problems with emphasis on originality. (2-2) 3

**ADV 4390 Independent Study:** Provides opportunity for the individual student or group to work beyond the limits of the regular commercial art offerings on self-determined objectives utilizing the resources of the Art Division. (3-0) 3

**ADV 4414 Advertising Production I:** Upon completion of this course, students will be able to use basic materials and tools properly for layout and mechanical artwork. They will demonstrate an understanding of printing and production processes and will use the appropriate terminology for this business. Prerequisite: ART 1406 and ART 1426. (2-4) 4

**ADV 4415 Advertising Production II:** In this course, students will produce more complex layout and mechanical art, including a self-promotional folder, and will have produced work involving conceptualizing ideas and coordinating typography, paper, halftone and color. Special graphic effects such as embossing, die-cutting, use of screens, and color keys will be studied. Prerequisite: ADV 4414. (2-4) 4

**ADV 4416 Advertising Production III:** In this course, students will solve an assigned communications problem through the stages of concept and layout to the printed product; will continue to expand creative and technical abilities; and will be able to select appropriate production techniques for a variety of communications problems. Prerequisite: ADV 4415. (2-4) 4

**ADV 4417 Advertising Production IV:** Upon completion of this course, students will have produced and executed solutions to problems in concept, layout, mechanical art and camera-ready art. Prerequisite: ART 4416. (2-4) 4

**ADV 4424 Advertising Studio I:** Upon completion of this course, students should be able to: produce professional quality layouts in semi-comprehensive form for various visual communications such as newspapers and magazines; design and lay out multi-colored flexible packages and/or folding carton packages; prepare camera-ready art, including type and color separation Amberlith overlays for the above assignments; and properly use studio equipment such as photostat, PhotoTypesetter and PMT processor. Prerequisite: ART 1406 and ART 1426. (2-4) 4

**ADV 4425 Advertising Studio II:** Upon completion of this course, students should be able to: identify the different types of halftone art; design and lay out various print advertisements which use halftone art; prepare semi-comps and camera-ready art for various types of consumer and business-related advertisements, such as trade and industrial ads; plan and produce a dummy and camera-ready art for multi-page publications, such as booklets and brochures; design and prepare for reproduction, direct-mail advertisements and/or announcements for consumer or business use. Prerequisite: ADV 4404. (2-4) 4

**ADV 4426 Advertising Studio III:** Upon completion of this course, students should be able to: complete layouts, comprehensive and camera-ready art for full-color reproduction; describe the four-color reproduction process; plan and execute an advertising campaign using a variety of communications media including newspaper ads, direct mail, magazines, television, point-of-purchase and outdoor advertising, and prepare a cost study for the above campaign. (2-4) 4



**ADV 4427 Advertising Studio IV:** Upon completion of this course, students will have completed advanced projects in advertising design, such as television productions and multi-media campaigns; and will have applied typographic, design and media solutions to psychological and marketing problems in advertising. Prerequisite: ADV 4426. (2-4) 4

**ADV 4436 Advertising Thesis:** Upon completion of this course, students should be able to identify their immediate and long-range vocational objectives; prepare a professional portfolio which will help to achieve these immediate objectives; and present the portfolio to prospective employers in a confident and professional manner. Prerequisite: ADV 4405 and ADV 4415. (2-4) 4

**ADV 4454 Typography and Lettering I:** Upon completion of this course, students will know the principles of hot metal and photo composition and should know and use appropriate terminology. Using a variety of media, students will be able to identify and execute specific typefaces from rough indication to comprehensive lettering. Prerequisite: ART 1404 and ART 1424. (2-4) 4

**ADV 4455 Typography and Lettering II:** Upon completion of this course, students should be able to demonstrate the effective use of type as a design and communications element in both headline copy and paragraphing formats; and be able to specify type for mechanicals. Prerequisite: ADV 4454. (2-4) 4

## Air Conditioning, Heating and Refrigeration

**AHR 4304 Introduction to Psychrometrics:** Upon completion of this course, students should be able to: describe the basic properties of air; describe the changes in volume and pressure with temperature; describe dew point temperature; describe humidity ratio, sensible heat, latent heat and their relationship with each other; determine sensible heat ratios, mixed air temperatures and enthalpy values; and solve simple problems using the psychrometric chart. Prerequisite: Completion of first year AHR courses. (3-0) 3

**AHR 4325 Air Conditioning, Heating and Refrigeration Drawing & Sketching:** Upon successful completion of this course, students should be able to: identify the symbols used on heating and air conditioning plans; demonstrate the ability to freehand sketch isometric and orthographic projection sketches of equipment; design and draw a simple plan for a heating and air conditioning system; dimension property and make proper notations on a design plan; organize the required information needed for a complete plan of a heating and air conditioning design. Prerequisite: Completion of first year AHR courses. (1-4) 3

**AHR 4361 Residential Air Distribution and Balance:** Upon completion of this course, students should be able to: demonstrate a comprehensive knowledge and understanding of air and its behavior in a duct or residential air distribution system; design any of the four basic duct systems used in residences; design a return system for residences; estimate blower capacity; estimate and measure friction loss; size an air distribution system for a residence correctly. Prerequisite: completion of first year AHR courses. (2-2) 3

**AHR 4372 Hydronic Distribution Systems Design:** Upon completion of this course, students should be able to: select boiler and other components for a complete system utilizing

charts, tables and catalog information; design commonly used hydronic systems and pipe sizing by accepted methods; determine water temperatures and quantities to meet calculated load conditions. Prerequisite: completion of first year AHR courses. (3-0) 3

**AHR 4373 Hydronic Systems Balance:** Upon completion of this course, students should be able to: use proper instruments to test, adjust and balance a system; analyze parallel and series application of pumps; analyze zone control methods and related equipment; use pump and system curves to analyze system performance; choose the best design for a specific application; measure water temperature at various terminal units to determine BTU output; construct a system curve based on measured water flow; use pump curves to estimate flow rate and head. Prerequisite: completion of first year AHR courses. Co-requisite: AHR 4372. (2-2) 3

**AHR 4382 Air Conditioning Estimates and Contracts:** Upon completion of this course, students should be able to: develop accuracy in compiling information to initiate contracts; develop correct methods for arriving at a realistic job selling price; use long and short estimating forms; understand essentials to make a contract legally binding; understand the effects of licensing and codes in conducting business; formulate an operating cost estimate for a small air conditioning and heating contractor. (3-0) 3

**AHR 4451 Commercial Refrigeration Systems Design:** Upon completion of this course, students should be able to: estimate the cooling load requirements for any known commercial refrigeration application; select proper equipment and controls to meet load requirements; design and size a refrigeration piping system including piping accessories and controls. Prerequisite: completion of first year AHR courses. (4-0) 4

**AHR 4452 Residential Air Conditioning Systems Design:** Upon completion of this course, students should be able to: estimate the heating and/or cooling needs of a residence; select the proper size of heating and/or cooling equipment required to meet the estimated needs; determine air quantities of a room by room basis; select room air outlets and returns and size duct work for simple systems. Prerequisite: completion of first year AHR courses. (3-2) 4

**AHR 4453 Commercial Air Conditioning Systems Design:** Upon completion of this course, students should be able to: estimate the heating and/or cooling requirements of a commercial-type structure; choose the proper size of heating and/or cooling equipment to meet these requirements; determine air mixture conditions entering and leaving cooling coil; use psychrometric chart to determine conditions of mixed air flow, and determine sensible and latent heat loads of air quantities; determine quantities and mixture conditions based upon calculated loads. Prerequisite: completion of first year AHR courses. (3-2) 4

**AHR 4462 Commercial Air Distribution and Balance:** Upon completion of this course, students should be able to: demonstrate a comprehensive knowledge and understanding of air and its behavior in a commercial air distribution system; demonstrate a basic knowledge of the types and classes of fans and applications; use fan charts to select fans and analyze air systems; demonstrate a knowledge of basic air distribution systems including duct sizing methods and proper selection of air outlets and returns. Prerequisite: completion of first year AHR courses. (3-2) 4

**AHR 4463 Control Systems:** Upon completion of this course, students should be able to: interpret symbols on a control



schematic diagram; compose a control schematic diagram; compare various control systems and select the one best suited for a specific application; prepare a control diagram for a refrigeration system; design a system of controls for an air conditioning system; properly assemble the components so as to have an operating control system; test and analyze control circuits; adjust various controls in a system. Prerequisite: completion of first year AHR courses. (3-2) 4

**AHR 4471 Installation and Service Problems:** Upon completion of this course, students should be able to: use a variety of test instruments; estimate capacity requirements of various components and equipment; select proper location for various components; examine various systems and solve service problems on same; using a variety of shop and field equipment, test and repair lab units; evaluate installation requirements; compare piping techniques; select system accessories. Prerequisite: seventh quarter standing in Air Conditioning, Heating and Refrigeration Technology program. (2-6) 4

**AHR 4490 Solar Heating and Cooling Systems I:** Upon completion of this course, students should be able to: describe the basic causes of our present energy scarcity and the advantages and disadvantages of solar energy; compare the latitudinal and seasonal variations of solar radiation and be able to use solar insolation tables; indicate the best applications for flat plate and concentrating collectors; use efficiency charts for flat plate collectors; draw piping and duct schematics for typical systems, and determine flow rates and storage requirements; describe the types of solar cooling systems. Prerequisite: completion of first year AHR courses. (4-0) 4

**AHR 4491 Solar Heating and Cooling Systems II:** Upon completion of this course, students should be able to: estimate the energy harvest for a collector using solar energy tables and efficiency information; estimate space heating requirements using degree-day tables; evaluate ways by which solar energy collected can be increased by collector design and operating conditions; recognize the types of control systems needed for different solar systems; estimate the fraction of solar energy supplied by the use of the f-chart; discuss the non-thermal application of solar energy such as photo voltaics and wind power. Prerequisite: completion of first year AHR courses and AHR 4490. (4-0) 4

**AHR 5200 Solar Domestic Hot Water Installation:** Upon completion of this course, students should be able to: define the terms used in the solar energy industry; determine available solar insolation; determine hot water needs for an average family; select and properly size solar components; determine proper location and mounting for solar collectors; install all system components and hardware correctly; fill and start up a system correctly; perform trouble-shooting and preventative maintenance techniques. (1-3) 2

**AHR 5201 Home Maintenance — Residential Air Conditioning:** Upon completion of this course, students should be able to: identify the various types of residential air conditioning units; change filters, replace belts, oil motors and drives; understand functions performed by thermostats and be able to set room thermostats for proper temperature control; balance air supply to rooms; insulate ductwork properly; clean around condensing unit for proper flow; describe the basic refrigeration cycle; clean air conditioning coils and fans; describe malfunctions of air conditioning system to a technician. (1-3) 2

**AHR 5204 Wiring Diagrams and Troubleshooting for A/C Systems:** Upon completion of this course, students should be able to: identify the more commonly used control compo-

nents, their symbols, and describe their function in the control system; read wiring diagrams; trouble-shoot and replace controls in a control system. Prerequisite: AHR 5314. (1-3) 2

**AHR 5301 Introduction to Automatic Controls:** Upon completion of this course, students should be able to: demonstrate a workable knowledge of electrical terms and symbols; have a working knowledge of Ohm's Law; draw series and parallel circuits; understand magnetism; describe fundamentals for current generation; understand the function of simple electrical controls as they are used in air conditioning and refrigeration systems. (3-0) 3

**AHR 5313 Refrigeration Service Principles:** Upon completion of this course, students should be able to: use the gauge manifold properly; analyze several operating refrigeration systems and measure the degree of efficiency of each; inspect, remove and re-install various sub-assemblies of the system; examine all components; distinguish and replace faulty system components; test entire system and place into operation. Co-requisites: AHR 5411, AHR 5412 and AHR 5301. (2-3) 3

**AHR 5314 Automatic Controls:** Upon completion of this course, students should be able to: understand and use electrical measuring instruments; identify and describe the function and operation of basic control devices; install and wire these basic controls into a control circuit; select the proper type and size of wire for each application; read basic pictorial wiring diagrams. Prerequisite: AHR 5301. (2-3) 3

**AHR 5321 Commercial Refrigeration Installation:** Upon completion of this course, students should be able to: demonstrate a knowledge of the various types and applications of commercial refrigeration installations; compare various defrost methods; select correct safety and operating controls for a given application; construct the refrigerant piping system; charge system with proper amount of refrigerant and test for leaks; start up system. Prerequisites: AHR 5313, AHR 5301, AHR 5411 and AHR 5412. (2-3) 3

**AHR 5322 Commercial Refrigeration Service:** Upon completion of this course, students should be able to: compare various commercial refrigeration systems; use necessary tools and apply service techniques taught in this course; test for and repair refrigerant leaks; analyze system for malfunction; choose and install correct replacement component(s); test for proper operation of entire system; employ specific equipment to dehydrate and evacuate system; install correct refrigerant charge; start system; evaluate system operation. Prerequisite: AHR 5301, AHR 5313 and AHR 5412. (2-3) 3

**AHR 5323 Oil Burners:** Upon completion of this course, students should be able to: differentiate between the various types of oil burners; test and evaluate the high pressure type burners; assemble a high pressure oil burner completely; interpret an electrical diagram for an oil burner assembly; prepare the oil burner for testing; measure combustion efficiency with minimum air pollution. Prerequisite: AHR 5301, AHR 5401 and AHR 5412. (2-3) 3

**AHR 5324 Air Conditioning, Heating & Refrigeration Blueprint Reading:** Upon completion of this course, students should be able to: interpret a simple residential blueprint; use plans, schedules and tables; demonstrate a knowledge of comprehension of notes, lines, projections and dimensioning procedures. Prerequisite: AHR 5301. (3-0) 3

**AHR 5333 Liquid Heat — One and Two Pipe Systems:** Upon completion of this course, students should be able to: make a diagram of the various systems; select all components for the various systems; analyze and test a system; describe the

various valves and their usage. Prerequisite: AHR 5401, AHR 5411 and AHR 5412. (2-3) 3

**AHR 5341 Gas Heat:** Upon completion of this course, students should be able to: differentiate between the various types of gas furnaces; understand operating and safety controls; design the gas piping system properly; test vent and test gas piping for leaks and proper operation; dismantle entire furnace, evaluate its condition, repair or replace faulty material(s), and reassemble the complete unit and all components; start up the completed installation; demonstrate comprehension of safety codes; measure combustion efficiency. Prerequisite: AHR 5204, AHR 5314, AHR 5411 and AHR 5412. (2-3) 3

**AHR 5342 Electric Heat:** Upon completion of this course, students should be able to: calculate the heat loss in wattage on a room to room basis for a structure; select the most appropriate type of system for a particular application; choose the correct controls for the system selected; design a simple system; assemble all components and install them; inspect and test systems and components for safe and proper operation; solve problems with system components; estimate approximate annual cost of operation; measure efficiency, voltage and wattage or current draw of a system. Prerequisite: AHR 5314 and AHR 5411. (2-3) 3

**AHR 5394 Mechanical Codes:** Upon completion of this course, students should be able to: demonstrate a comprehensive understanding of the North Carolina Building code relating to air conditioning in residences and commercial buildings; compare the systematic methods of designing and sizing an air conditioning system; evaluate the systematic methods of designing and sizing an air conditioning system; evaluate the systematic methods of designing, sizing and installing the refrigerant piping and condensate drain(s); employ the applicable standard to the installation of all air conditioning systems and equipment. Prerequisites: AHR 5323, AHR 5333, AHR 5341 and AHR 5342. (3-0) 3

**AHR 5401 Basic Calculations for A/C, Heating and Refrigeration Mechanics:** Upon completion of this course, students should be able to: apply the principles of addition, subtraction, multiplication and division to problems relating to the heating and air-conditioning field; calculate direct and indirect ratio and proportion; read a ruler accurately; manipulate fractional and decimal numbers; use simple equations to solve arithmetic formulas in the field; use a ductalator and Ohm's Law table; perform calculations for area and volume; understand scale measurement and angular measure; discuss measurement using the metric system as well as the English system. (4-0) 4

**AHR 5411 Air Conditioning, Heating and Refrigeration Fundamentals:** Upon completion of this course, students should be able to: analyze the elements of thermodynamics; evaluate pressure-temperature relationships; compare Boyle's Law and Charles' Law; design a simple refrigeration cycle. (4-0) 4

**AHR 5412 Shop Practices:** Upon completion of this course, students should be able to: select the correct tubing for refrigerant use; bend tubing properly; flare and swage tubing; use various solders and techniques in making a series of soldered connections; construct a small piping system; use a gauge manifold; examine tubing or piping system for leaks utilizing at least three leak detection methods. Corequisite: AHR 5411. (2-6) 4

**AHR 5431 Air Conditioning—Residential/Commercial:** Upon completion of this course, students should be able to:

demonstrate a knowledge of the terminology used in this field; diagram a complete refrigeration cycle, properly identifying all components; choose all necessary major components; differentiate between water- and air-cooled equipment; design a simple residential air conditioning system and select all components; assemble the system; employ safety measures; compare remote and self-contained systems; compare various air moving equipment; demonstrate full comprehension of the various commercial air conditioning systems; inspect, test and analyze a commercial system; solve various service problems on systems. Prerequisites: AHR 5313, AHR 5314, AHR 5411, or AHR 5412. (3-3) 4

**AHR 5443 All Weather Systems — Conventional:** Upon completion of this course, students should be able to: demonstrate a thorough comprehension of the application of both heating and cooling into one single system; compare the various combinations of oil-electric, gas-electric, all-electric and other available combination systems; select the proper safety and operating controls for either type system; assemble all equipment and components and construct an all-weather system of conventional type; inspect and test systems; solve service problems; revise improperly installed systems; measure and evaluate the overall performance of an all weather conventional type system. Prerequisites: AHR 5323, AHR 5341 and AHR 5342. (3-4) 4

**AHR 5444 All Weather Systems — Heat Pumps:** Upon completion of this course, students should be able to: construct a diagram of the refrigerant cycle; select all components necessary to construct a heat pump cycle and compare an electrical diagram employing all necessary operating and safety controls; practice service procedures on lab models; prepare a list of advantages and disadvantages of using a heat pump. Prerequisites: AHR 5204, AHR 5313, AHR 5342 and AHR 5412. (2-6) 4

**AHR 5494 Duct Design I — Rectangular Duct:** Upon completion of this course, students should be able to: identify correctly and safely operate all of the hand tools normally found in a sheet metal shop; identify correctly and safely operate all of the metal working machinery usually found in the average sheet metal shop; measure, diagram, cut out and construct nine different types of "seam" or "lock seams" and different types of "cleats" essential to the fabrication and installation of metal ductwork; design and construct different rectangular and/or square sections of duct and/or fittings, using various gauges of sheet metal. Prerequisites: AHR 4325 and AHR 5324. (3-6) 5

**AHR 5495 Duct Design II — Round Duct:** Upon completion of this course, students should be able to: measure, design and construct ten different sizes of round metal duct; construct round duct; select and construct transition fittings; design and construct 45 and 90 degree elbows. Prerequisite: AHR 5594. (3-3) 4

## Anthropology

**ANT 1502 General Anthropology:** Upon completion of this course, students should be able to: demonstrate a knowledge of personality structure, stratification systems, marriage-family-kinship systems, religion-magic-witchcraft, economic systems, political organization, law and social control, socio-cultural change, and linguistics in preliterate societies. In addition, students should demonstrate a knowledge of human paleontology, archaeology, primatology, human variation and cultural history. (5-0) 5



# Architectural Technology

**ARC 3200 Introduction to Architecture:** Upon completion of this course, students should be able to: identify the role of the architect and the technician in our society and architectural profession; discuss the development of buildings; list the ways in which architectural design has responded to changes in society which are reflected in the major building types; evaluate the basic building types and their problems. (2-0) 2

**ARC 3210 Design Your House Plans:** Upon completion of this course, students should be able to: design their own home plans or alter existing plans; draw plans and elevations with proper dimensioning; select effective house orientation for sun, wind, view and privacy, as well as the topography of the site; choose the most appropriate basic house structure and determine involved traffic patterns; plan the individual rooms, stairs, halls and core units (kitchen, bath and utility rooms); design the exterior of the house, including shape and proper material. (1-2) 2

**ARC 3301 Build Your Home:** Upon completion of this course, students should be able to: evaluate information and procedures required in all facets of building or remodeling a home, including areas of building codes, zoning laws, and site selection; perform basic interior and exterior design programs, including selection and use of building materials; recognize the various alternatives in heating and air conditioning, plumbing and electrical systems; review plans, specifications and other contract documents required in the relationship with contractors and financial institutions. (3-0) 3

**ARC 3302 Home Construction Methods and Details:** Upon completion of this course, students should be able to: identify and evaluate information and procedures pertaining to house construction such as lot surveys, drainage, excavation and foundation construction, foundation walls, floors, wall and roof framing; appraise prefabricated walls and roof trusses, various types of duct work, heating and plumbing rough-in work, electrical wiring; compare and select exterior wall coverings, roofing materials, interior wall finishes, kitchen and bathroom equipment, floor coverings, plumbing-lighting-electrical fixtures and devices, and hardware; evaluate the actual application of the construction materials and techniques through site visitation. (3-0) 3

**ARC 3303 Interior Design Drafting I:** Upon completion of this course, students should be able to: apply basic light construction terminology to drawings; draw residential and industrial plans and details; recognize standard building materials and their sizes; compare and select various types of windows and doors; use inking pens; discuss contents of residential and industrial building codes; and use reference material and graphic standards. Prerequisite: ARC 3334. (1-6) 3

**ARC 3304 Interior Design Drafting II:** Upon completion of this course, students should be able to: lay out standard building modular sizes; utilize information determined from residential and commercial building blueprints; interpret and write basic specifications; draw an electrical plan with a fixture schedule; identify various types of heating and cooling systems and draw a plan using the mechanical equipment symbols; draw working plans and details for cabinet makers and mechanics. Prerequisite: ARC 3303. (1-6) 3

**ARC 3307 Computer-Aided-Drafting (CAD)—Architectural:** Upon completion of this course, students should be able to: identify the components of a CAD system and define their use; understand the major CAD systems used in industry, their

similarities and differences; have a working understanding of the commands and controls of a CAD system; draw typical architectural details; draw objects in orthographic projection; dimension architectural floor plans. Prerequisite: ARC 3335. (1-6) 3

**ARC 3312 Residential Working Drawings:** Upon completion of this course, students should be able to: apply basic residential construction terminology to drawings; draw residential working drawings including plans, elevations, details, schedules, lighting, and site plans; be familiar with basic code requirements. Prerequisite: ARC 3334. (1-6) 3

**ARC 3334 Architectural Drafting I—Basic and Residential:** Upon completion of this course, students should be able to: use drafting equipment; develop skills in lettering and drawing; use architectural and engineering scales; do freehand sketching; draw basic residential plans, elevations and details. (1-6) 3

**ARC 3335 Architectural Drafting II—Site Planning and Commercial:** Upon completion of this course, students should be able to: be familiar with siting buildings from the standpoint of orientation, utilities, cut and fill, parking and drives; understand the effect of zoning and other code requirements; have an introductory understanding of commercial working drawings, including sheet sequence and basic commercial construction terminology; prepare preliminary commercial drawings—floor plans, elevations and sections. Prerequisite: ACC 3334. (1-6) 3

**ARC 3336 Architectural Drafting III—Commercial A:** Upon completion of this course, students should be able to: be familiar with fundamental commercial construction, building materials and site work; develop and draw plans, elevations, wall sections and details; detail exterior systems and construction. Prerequisite: ARC 3335. (1-6) 3

**ARC 4200 Architectural Blueprint Reading and Specifications:** Upon completion of this course, students should be able to: visualize building floor plans, elevations, sections and details in relation to the completed three-dimensional structure; recognize drawing conventions, standard materials and equipment symbols on architectural, structural, mechanical and electrical plans; apply information obtained from residential working drawing floor plans, elevations, sections and details as well as heating, air conditioning, plumbing and electrical plans; utilize information determined from commercial building blueprints pertaining to masonry, reinforced concrete, structural steel and heavy timber construction; discuss contents of specifications and how they relate to drawing in the design and construction of buildings. (1-3) 2

**ARC 4300 Architectural-Mechanical Equipment:** Upon completion of this course, students should be able to: identify the types of plumbing distribution and hot water supply systems; size piping layout for a fresh water and a sanitary plumbing system; identify types of electrical wiring and service equipment; associate the types of heating and cooling systems for buildings; identify the fundamentals of lighting and associated equipment; describe vertical transportation equipment such as elevators. Prerequisite: ARC 3335 and ARC 4200. (2-3) 3

**ARC 4302 Architectural Model Construction:** Upon completion of this course, students should be able to: use basic tools and equipment necessary to build models; build various types of contours and landscape models; construct simple study models for architectural engineering or interior design study; represent the basic building materials at various scales; construct either architectural, structural or interior models from blueprints. Prerequisite: ARC 3334 or ability to read blueprints. (1-6) 3



**ARC 4310 Energy Efficient and Solar Home Design:** Upon completion of this course, students should be able to: identify the different systems of passive solar installation; understand the sun's effect on the earth; compute heat loss and gain; utilize the basic tools of passive design; become acquainted with actual passive applications; gain a basic understanding of the performance of various building materials and insulation. (3-0) 3

**ARC 4337 Architectural Drafting IV—Commercial B:** Upon completion of this course, students should be able to: develop stair and elevator drawings from floor plans; study interior finishes and materials; incorporate manufacturers' building equipment into drawings; coordinate drawings and schedules. Prerequisite: ARC 3336. (1-6) 3

**ARC 4438 Architectural Drafting V—Mechanical Electrical and Plumbing:** Upon completion of this course, students should be able to: draw mechanical duct layouts; draw lighting, electrical plans and schedules; draw plumbing plans, schedules and riser diagrams; identify and utilize appropriate symbols. Prerequisites: ARC 3336 and ARC 4300 or instructor's permission. (1-6) 3

**ARC 4339 Architectural Drafting VI—Structural:** Upon completion of this course, students should be able to: design and draw structural steel framing for a simple commercial or industrial building; design and shop detail the component parts of steel structures, including bolted and welded connections; analyze continuous beams; design composite construction floor systems with the use of the AISI Manual; detail the component parts of reinforced concrete structures. Prerequisites: CIV 4427 and ARC 3335. Corequisite: CIV 4434. (1-6) 3

**ARC 4440 Architectural Drafting VII—Working Drawings:** Upon completion of this course, students should be able to: perform as team members in the preparation of schematic design drawings to meet the building requirements of a hypothetical client; function as members of the production team in the preparation and presentation of design development drawings; apply the fundamentals of ordinances and regulations pertaining to zoning, traffic and facilities for the physically handicapped; produce, as members of the team, a set of architectural working drawings consisting of site plan, floor plans, reflected ceiling plans, elevations, wall section and details; apply office practice methods pertaining to project production. Prerequisites: ARC 4300, ARC 4337 and ARC 4330. (1-9) 4

**ARC 4345 Architectural Presentation Drawing:** Upon completion of this course, students should be able to: perform basic and advanced architectural presentation techniques, including the use of shading, shadows, and the use of perspective charts; apply a variety of media including pencil, ink and color; draw vegetation, people and transportation vehicles; produce a complete architectural rendering. Prerequisite: ARC 3335 or equivalent. (1-6) 3

**ARC 4.94 Independent Study:** This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 credits)

*(Also see Civil Engineering Technology for other course descriptions.)*

## Art

**ART 1200 Fiber Dyes:** In this course, students will explore the use of natural and synthetic dye processes for the hand-weaver. Direct dyeing and top-dyeing with a variety of dye types will be explored along with color theory.\* (0-4) 2

**ART 1202 Calligraphy:** Upon completion of this course, students will be able to execute three lettering styles using basic calligraphy tools and materials. They will also be familiar with basic lettering rules, design and layout principles, and preparation of calligraphy for reproduction.\* (1-2) 2

**ART 1300 Introduction to Art I:** Upon completion of this course, students should be able to demonstrate a recognition and understanding of the basic elements and principles of design as they apply to the visual arts. Through written or oral means they will demonstrate an understanding of appropriate terms and the skills required in the various art media, and a knowledge of how the visual arts affect daily life and commerce. (3-0) 3

**ART 1301 Introduction to Art II:** Upon completion of this course, students should demonstrate an ability to draw parallels between art of the past and present. They should demonstrate an understanding through written or oral means of broad social, political, psychological and economic motivations for creating art. (3-0) 3

**ART 1302 Art Education:** Upon completion of this course, students should be able to: discuss and compare some of the major trends in the history, psychology, philosophy and methods of art education; plan, organize, conduct and evaluate a classroom art experience.\* (2-2) 3

**ART 1303 Printmaking II:** Upon completion of this course, students should be able to select woods, execute appropriate designs for woodcuts, handle woodcut tools properly, and produce editions of prints using various woodcut techniques.\* (0-6) 3

**ART 1310 History of Art I:** Students will survey major visual arts and the influence of the historical past on the concepts and form of contemporary creative endeavor: Prehistoric through Gothic. (3-0) 3

**ART 1311 History of Art II:** Students will survey major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor: the Renaissance, Baroque and Rococo up to the 18th century. (3-0) 3

**ART 1312 History of Art III:** Students will survey the major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor from the 18th century Rococo and rise of Romanticism through the art of the 20th century. (3-0) 3

**ART 1314 Basic Woodworking:** Upon completion, students should know the characteristics of a variety of woods and will be able to use powered and hand tools properly in the processes of shaping, joining and finishing wood.\* (0-6) 3

**ART 1315 Intermediate Woodworking:** Using and improving the knowledge and skills acquired in basic woodworking, students will produce finished woodworking projects. Prerequisite: ART 1314 or divisional consent.\* (0-6) 3

**ART 1316 Advanced Woodworking:** Continuing to expand knowledge and skills from basic and intermediate woodworking, students will design and produce original projects in wood. Prerequisite: ART 1315 or divisional consent.\* (0-6) 3

**ART 1317 Furniture Restoration I:** After completing this  
\*Does not satisfy humanities requirement.

course, students should be able to identify the presence of shellac, lacquer, oil and varnish finishes on furniture and will know the process for removing old wood finishes, applying oil stains, bleaching wood, proper sanding methods, and applying new finishes.\* (0-6) 3

**ART 1318 Furniture Restoration II:** Students will continue to improve skills in applying new finishes, sanding techniques, and waxing furniture. In addition, they will learn how to operate woodworking tools to perform minor repairs on furniture. They will also learn how to distinguish between oil stains, varnish stains, sealer stains, spirit stains and water stains; when each should be used and how to apply them. Prerequisite: ART 1317 or divisional consent.\* (0-6) 3

**ART 1319 Furniture Restoration III:** Students will further craftsmanship in removing old finishes and applying new ones, and will demonstrate the ability to perform major repairs on furniture, including chair caning, repairing inlay, repairing veneer and mending broken wood. Prerequisite: ART 1318 or divisional consent.\* (0-6) 3

**ART 1321 Printmaking I:** Students will demonstrate an understanding of silk screening as a fine art by designing and producing editions of prints which include the use of various techniques such as tusche and glue, crayon and glue, and paper or film stencils.\* (0-6) 3

**ART 1322 Crafts:** Upon completion of this course, students should be able to: identify and describe major textile craft forms; design, construct and exhibit textile craft projects. Crafts will include stitchery, hand-weaving, tie-dyeing, batik and silk screening on fabric.\* (0-6) 3

**ART 1327 Sculpture I:** In this course, students will experiment with a variety of materials and methods of sculpture. They will construct and use piece molds to reproduce their clay originals.\* (0-6) 3

**ART 1328 Sculpture II:** Students will continue to experiment with a variety of materials and methods of sculpture. There will be an emphasis on carving in wood and stone. Prerequisite: ART 1327 or divisional consent.\* (0-6) 3

**ART 1329 Sculpture III:** Upon completion of this course, students should have: expanded knowledge of basic sculpture; performed individual investigation and work in modeling, casting, carving and construction; experimented with recently developed media in sculpture. Prerequisite: ART 1328 or divisional consent.\* (0-6) 3

**ART 1332 Photographing Nature:** This course is designed for students wishing to develop some basic principles of nature photography, allowing them to become technically proficient at taking good nature photographs in an expeditious manner, with a reasonable degree of reliability as the final result. The course will cover the basic technical aspects of wildlife, close-up and scenic photography, with emphasis on the principles and practice of proper lighting. Students will become familiar with the basic construction and use of blinds in nature photography. Prerequisite: ART 1384 or divisional consent.\* (2-2) 3

**ART 1333 Stained Glass:** Upon completion of this course students should be able to select the proper tools and materials of the stained glass medium; demonstrate working knowledge of the Tiffany method of stained glass construction; complete three projects using the above method.\* (0-6) 3

**ART 1334 Painting I:** Upon completion of this course, students should be able to select tools and materials for painting; demonstrate a knowledge of the elements of art and the principles

of design as these apply to the production of painting.\* (0-6) 3

**ART 1335 Painting II:** Students will continue the analysis and production of good pictorial composition and will continue experimentation in painting techniques and media. Prerequisite: ART 1334 or divisional consent.\* (0-6) 3

**ART 1336 Painting III:** Students will give special attention to painting as a means of personal expression and will continue to identify and solve problems of pictorial production in color, form and spatial illusion and will continue technical experimentation. Prerequisite: ART 1335 or divisional consent.\* (0-6) 3

**ART 1344 Weaving I:** In this course, students will produce constructed textiles; employ basic rug techniques, basic tapestry techniques and basic basket techniques. Students will observe and participate in warping and dressing the loom.\* (0-6) 3

**ART 1345 Weaving II:** In this course, students will warp and dress the floor loom; study fiber and fabric construction, drafting and designing for the floor loom and will produce clothing and/or manipulated fiber constructions. Prerequisite: ART 1344 or divisional consent.\* (0-6) 3

**ART 1346 Weaving III:** In this course, students will produce pieces demonstrating their exploration and understanding of double weave, IKat, or dyeing of yarns and more advanced pattern and drafting constructions. Prerequisite: ART 1345 or divisional consent.\* (0-6) 3

**ART 1347 Weaving IV:** In this course, students will explore, design and execute one technique of fiber construction; its historical development and contemporary position in the aesthetics of the craft world. Prerequisite: ART 1346 or divisional consent.\* (0-6) 3

**ART 1360 Raku:** Students will study history, aesthetics and techniques of the raku ceramic process. They will be provided experience in glazing, kiln building and firing.\* (0-6) 3

**ART 1364 Ceramics I:** Upon completion of this course, students should be able to: design and form clay-ware by the pinch, coil and slab methods; formulate and apply glazes.\* (0-6) 3

**ART 1365 Ceramics II:** Upon completion of this course, students should be able to: design and produce ceramic projects building on the foundation of skills acquired in Ceramics I; construct one major sculpture project which will combine at least one additional material with the clay; practice basic wheel throwing methods; keep an individual test tile record of glaze experiments. Prerequisite: ART 1364.\* (0-6) 3

**ART 1366 Ceramics III:** Upon completion of this course, students should be able to: design and produce ceramic projects building on the foundation of skills acquired in Ceramics I and II; formulate a base glaze test with variations; describe how to load, fire and unload a gas and an electric kiln. Prerequisite: ART 1365.\* (0-6) 3

**ART 1374 Jewelry I:** Upon completion of this course, students should be able to: design and produce finished metal jewelry projects; demonstrate a knowledge of and proper care for jewelry tools and equipment; demonstrate the ability to saw, file, forge, solder and finish a variety of metals.\* (0-6) 3

**ART 1375 Jewelry II:** Upon completion of this course, students should be able to: design and produce finished jewelry projects building on basic skills acquired in Jewelry I; demonstrate a knowledge of and proper care for jewelry tools and

*\*Does not satisfy humanities requirement.*



equipment including centrifugal casting equipment. Prerequisite: ART 1374.\* (0-6) 3

**ART 1376 Jewelry III:** Upon completion of this course, students should be able to: design and produce finished jewelry projects building on the basic skills acquired in Jewelry I and II; demonstrate a knowledge of and proper care for jewelry tools and equipment. Emphasis will be on the relationship of material, function and individual approach of each student. Prerequisite: ART 1375.\* (0-6) 3

**ART 1384 Basic Camera Techniques:** Students will develop skills using their own 35mm camera. Upon successful completion of this course, students should be able to determine proper exposure under a variety of light and subject conditions, including the use of flash. Instruction and practice will be provided in camera handling, films, filters, lenses and composition. Students will take photographs using color slides, which they may have commercially processed, to demonstrate their understanding of specific camera techniques.\* (3-0) 3

**ART 1385 Photo Lab Processes I:** This is a course in basic black-and-white laboratory processes. Students will take photographs with their own 35mm cameras, as well as the 4"x5" view camera, supplied by the instructor. They will process film from both cameras and make enlargements from that film. They will demonstrate skills in the use of certain laboratory techniques to enhance the quality of the photograph, such as control of density and contrast, burning and dodging, as well as basic photofinishing. Prerequisite: ART 1384.\* (1-4) 3

**ART 1386 Photo Lab Processes II:** Students will develop a portfolio of black-and-white photographs using their own 35mm cameras and the 4"x5" view camera, supplied by the instructor. Upon completion of this course, students should be able to set up and operate the view camera for shooting still-lives and portraits in the studio, as well as for correcting vertical and horizontal distortion. They should be able to calculate lighting ratios and arrange lighting set-ups for taking still-lives and portraits. They should also be able to use high contrast film, reversal film and solarization techniques to create special effects in the darkroom. Prerequisite: ART 1385.\* (1-4) 3

**ART 1389 Color Printing I:** This is an introductory course in color printing. Upon completion of this course, students should demonstrate an understanding of basic color theory, color printing theory and the equipment and materials for color negative printing. They should be able to properly expose color negative film using their own 35mm camera and be able to make 8"x10" color prints using those negatives. They should also demonstrate basic skills in finishing and retouching color prints. Prerequisite: ART 1386.\* (1-4) 3

**ART 1390 Color Printing II:** Upon completion of this course, students should be able to expose color transparency film properly and make color prints from that film. They will use the view camera supplied by the instructor to shoot and print large-format transparencies. They should also demonstrate an understanding of advanced techniques in lighting and the use of color correction filters when exposing color transparency film. Prerequisite: ART 1389.\* (1-4) 3

**ART 1392 Advanced Camera Techniques:** Upon completion of this course, students should demonstrate an understanding of critical exposure techniques, the specialized use of lenses, filters, films, composition and electronic flash. Through the use of color slides which the students shoot with their own 35mm cameras and have commercially processed, they will demonstrate an understanding of the basic elements of environmental lighting techniques, nature photography, multiple exposure and

the photo essay. Prerequisite: ART 1384.\* (0-3) 3

**ART 1393 Visual Aids:** Upon completion of this course, students should be able to develop useful and effective audio-visual materials using overhead transparencies, 2"x2" slides, filmstrips and audio recording equipment. They should be able to use and do basic maintenance on audio-visual equipment.\* (2-2) 3

**ART 1404 General Drawing I:** This course introduces the students to many of the problems (and their possible solutions) in representing visual experience on the two-dimensional surface. Students will experiment with the widest practical variety of tools, materials and techniques of drawing, and will learn to use these techniques and combinations of tools and materials as a means of personal expression and communication of experience. They will also be introduced to linear perspective and basic concepts of composition.\* (2-4) 4

**ART 1405 General Drawing II:** Upon completion of this course, students will have been introduced to the study of perspective and other systematized methods of rendering the illusion of form and space. They should be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of materials and techniques in drawing. Prerequisite: ART 1404 or divisional consent.\* (2-4) 4

**ART 1406 General Drawing III:** In this course students will work toward the use of drawing as a means of personal expression and will concentrate on the development of direction and method in their work. Prerequisite: ART 1405 or divisional consent.\* (2-4) 4

**ART 1424 Design I:** Upon completion of this course, students should be able to identify and use the principles and elements of design as these relate to two-dimensional surface. Flat pattern development, pictorial composition, depiction of spatial illusion and value analysis will have been studied.\* (2-4) 4

**ART 1425 Design II:** Students will examine and explore basic color theories. With this basis, individual color solutions, particularly as they might apply to practical communications problems, will be explored. The elements and principles of design will continue to be explored. Prerequisite: ART 1424 or divisional consent.\* (2-4) 4

**ART 1426 Design III:** Students will continue the study of principles of design and will employ these principles for works in both two and three dimensions. Emphasis will be upon personal solutions to design problems. Prerequisite: ART 1425 or divisional consent.\* (2-4) 4

**ART 2300 Advanced Stained Glass:** Upon completion of this course, students should be able to show progress in glass cutting and pattern design; demonstrate a working knowledge of the lead came method of stained glass construction; complete three projects using the above method. Prerequisite: ART 1333 or divisional consent.\* (0-6) 3

**ART 2304 Individual Studio:** A course designed to permit the individual student or group to work beyond the limits of the regular course offerings on self-determined objectives utilizing the resources of the Art Division. Prerequisite: Completed sequence of art courses in the area of proposed independent study.\* (0-6) 3

**ART 2322 Surface Design for Textiles:** Introduction to major types of process for non-constructed textiles. Exploration

*\*Does not satisfy humanities requirement.*



of surface design and pattern. Techniques: stamping, stencil and resists, tie-dye, sew and dye, batik, and silk-screening on fabric.\*

(0-6) 3

**ART 4201 Commercial Art Orientation I:** Upon completion of this course, students should: be familiar with the Advertising Design and Interior Design programs offered at CPCC; have met the Art Division faculty; be better able to use CPCC facilities such as the library, Drop-In Center, etc.; be able to make a better-informed choice of career goals and the program and courses which will serve them best.\*

(2-0) 2

\*Does not satisfy humanities requirement.

## Automotive Body Repair

**AUB 5100 Seminar I:**

**AUB 5101 Seminar II:**

**AUB 5102 Seminar III:** These courses cover various aspects of the auto body repair field not included in the skill courses. Students should gain a better understanding of day to day auto body shop operations, problems, and their solutions. (1-0) 1

**AUB 5201 Trim and Glass:** Upon successful completion of this course, students should be able to: disassemble, rebuild and reassemble automobile doors; remove and install windshields and back glass; aim headlights; remove and install seat covers and side trim. (1-3) 2

**AUB 5202 Auto Renewal:** Upon completion of this course, students should be able to: clean and repaint engines; clean and dye seats and doors; clean and dye headliners and carpets; renew trunk and engine compartments; buff and polish exterior surfaces; clean and restore chrome; clean and dress vinyl tops and convertible tops. (1-3) 2

**AUB 5203 Estimating Auto Body Damages:** Upon completion of this course, students should be able to: read a crash estimating guide; prepare a damage estimate; interpret an estimate; estimate straight time costs. (2-0) 2

**AUB 5214 Door and Fender Alignment:** Upon completion of this course, students should be able to: align the hood and fenders of cars; align the doors of cars; align deck lids of cars; replace the chassis sheet metal of a car as a unit. Corequisite: WLD 5210. (1-3) 2

**AUB 5223 Fiberglass and Metallic Fillers:** Upon completion of this course, students should be able to: solder fill minor dents; fiberglass fill small cracks and openings; use powdered metal to fill rusted areas; finish minor body defects using hammer and dolly files, grinders, sanders and related tools. Corequisite: AUB 5421. (1-3) 2

**AUB 5224 Panel Installation:** Upon completion of this course, students should be able to: remove damaged sheet metal panels; use a power chisel; install partial panels, patch panels and full panels; use pop rivets; use a panel spotter and wire spot welder. (1-3) 2

**AUB 5233 Lacquer Painting:** Upon completion of this course, students should be able to: spray paint using various lacquers; sand and prepare a car for lacquer painting; buff and finish a car after lacquer painting; spot paint using lacquer paint; seal and paint lacquer over old surfaces. Corequisite: AUB 5431. (1-3) 2

**AUB 5234 Enamel Painting:** Upon completion of this course, students should be able to: sand and prepare a car for enamel painting; spray paint using various enamel paints; paint a single panel using enamel paint. Corequisite: AUB 5431. (1-3) 2

**AUB 5235 Special Finishes:** Upon completion of this course, students should be able to: spray paint a vinyl top; paint trunk compartments; paint plastic parts; pinstripe; use various custom paints. Corequisite: AUB 5431 and AUB 5233. (1-3) 2

**AUB 5344 Body Shop Applications:** Upon completion of this course, students should have: gained confidence and skill in the use of all the techniques covered in the previous courses; worked on actual collision repairs using the same methods and practices as recommended by the automobile manufacturers and related industry. Prerequisite: ALL AUB prefix courses first three quarters. (0-9) 3

**AUB 5345 Body Shop Applications II:** A continuation of AUB 5344. Prerequisite or Corequisite: AUB 5344. (0-9) 3

**AUB 5346 Body Shop Applications III:** A continuation of AUB 5345. Prerequisite or Corequisite: AUB 5345. (0-9) 3

**AUB 5347 Body Shop Applications IV:** A continuation of AUB 5346. Prerequisite or Corequisite: AUB 5346. (0-9) 3

**AUB 5412 Frame and Unitized Body Alignment:** Upon completion of this course, students should be able to: use frame gauges; use hydraulic tools for straightening auto body damage; align body openings; describe the types of major frame damage; tie down a car; use a frame machine to straighten frame damage. Corequisite: WLD 5210. (2-6) 4

**AUB 5421 Metal Finishing and Plastic Fillers:** Upon completion of this course, students should be able to: shrink sheet metal; use a hammer and dolly; rough out and fill dents; finish dents with plastic fillers; use a grinder, body file and long sander. Corequisite: WLD 5210. (2-6) 4

**AUB 5431 Paint Equipment and Preparation:** Upon completion of this course, students should be able to: disassemble, clean and reassemble a paint spray gun; maintain a spray paint system; select spray paint equipment; sand and mask a car in preparation for painting; use the basic techniques of spray painting. (2-6) 4

## Automotive Mechanics

**AUT 4300 Automotive Emissions Systems:** Upon completion of this course, students should have: demonstrated an understanding of emission control systems used on current production automobiles and light trucks; demonstrated an understanding of federal, state and local emission standards; developed competencies in troubleshooting, testing and servicing emission control systems. (2-2) 3

**AUT 4308 Auto Servicing:** Upon completion of this course, students will have actual shop experience with emphasis on flat rate hours, service management and customer relations. Prerequisite: seventh quarter standing in Automotive Technology. (1-6) 3

**AUT 4401 Automotive Electronics:** Upon completion of this course, students should have: demonstrated an understanding of basic electronic controlled systems used on automobiles and light trucks; developed competencies in testing and troubleshooting electronic components. Prerequisites: AUT 5415 and AUT 5416. (3-2) 4

**AUT 4402 Instrumentation and Chassis Electrical Systems:** Upon completion of this course, students should have: demonstrated an understanding of the operation of chassis electrical systems; demonstrated an understanding of the operation of automotive instruments; developed competencies in the tasks required in troubleshooting and servicing chassis electrical

systems and automotive instruments and their related circuits. Prerequisites: AUT 5415 and AUT 5416. (3-3) 4

**AUT 4406 Computer Controlled Fuel Systems:** Upon completion of this course, students should be able to: disassemble, repair as necessary, and diagnose: typical fuel injection systems, computer controlled carburetion systems, and propane fuel systems. (3-2) 4

**AUT 5212 Electrical Testing:** Upon completion of this course, students should be able to: operate automotive diagnostic equipment; demonstrate use of shop manuals; demonstrate an understanding of automotive and truck wiring systems. Prerequisite: AUT 5415. (1-3) 2

**AUT 5254 Automotive Heating and Air Conditioning:** Upon completion of this course, students should have: demonstrated an understanding of the operation of automotive heating and air conditioning systems to include electrical and mechanical controls; developed competencies in the testing, service, and repair of the systems and system components; demonstrated an understanding of safety precautions in the handling of refrigerants and working with pressurized heating and air conditioning systems. (1-3) 2

**AUT 5295 Auto Mechanics Co-Op:** Upon completion of this course, students should be able to: produce and describe a master work log sheet containing the various types and number of job tasks completed in an automotive service agency during this cooperative work experience; demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty. Prerequisite: fourth quarter standing in Auto Mechanics program. (0-20) 2

**AUT 5307 Auto Electrical and Fuel Systems Applications:** Upon completion of this course, students should have developed competencies in performing tasks required in the service and repair of basic automotive electrical and fuel systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor. Prerequisites: AUT 5405, AUT 5415, and AUT 5416. (1-6) 3

**AUT 5308 Auto Chassis and Suspension Systems Applications:** Upon completion of this course, students should have developed competencies in performing tasks required in the service and repair of automotive suspension, steering, and braking systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor. Prerequisite: AUT 5404. (1-6) 3

**AUT 5401 Internal Combustion Engines:** Upon completion of this course, students should be able to: disassemble, measure parts, reassemble and run selected automobile engines; make necessary adjustments according to manufacturers' specifications. (2-6) 4

**AUT 5402 Internal Combustion Engines II:** Upon completion of this course, students should be able to: disassemble, measure parts, reassemble and run selected automobile engines; make necessary adjustments according to manufacturers' specifications; grind valves and reface seats on cylinder heads; remove and install cam bearings using special tools; demonstrate knowledge of the difference in domestic and foreign engines. Prerequisites: AUT 5401. (2-6) 4

**AUT 5403 Basic Calculations for Auto, Diesel and Power Mechanics:** Upon completion of this course, students should be able to: apply the principles of addition, subtraction, multiplication

and division to problems related to the automotive field; use the functions of ratio and proportion to solve gear, crankshaft and pulley problems; read a ruler, micrometer and feeler gauge accurately; use area and volume formulas; apply angular and geometric measurement toward cylinder, chassis and fly-wheel problems; understand scale measurement; discuss measurement in terms of the metric system as well as the English system. (4-0) 4

**AUT 5404 Auto Chassis and Suspension Systems:** Upon completion of this course, students should be able to: disassemble, repair as necessary and reassemble the following components: manual and power steering, front and rear suspension units, drum and disc type brakes; check and adjust front end alignment angles; balance wheels. (2-6) 4

**AUT 5405 Basic Automotive Fuel Systems:** Upon completion of this course, students should be able to: disassemble, repair as necessary, and reassemble major United States manufacturers' carburetors; describe the operation and construction of carburetors, fuel pumps, intake and exhaust systems; perform typical carburetor adjustments on the car. (2-6) 4

**AUT 5415 Electrical Systems I:** Upon completion of this course, students should be able to: disassemble, repair as necessary, reassemble and test automobile alternators, starters, distributors and electrical accessories; describe the operation and construction of the above automobile components. (2-6) 4

**AUT 5416 Electrical Systems II:** Upon completion of this course, students should be able to: operate automotive electrical diagnostic equipment; perform the procedures used for a major automotive tune-up on typical vehicles. Prerequisite: AUT 5415. (2-6) 4

**AUT 5425 Auto Power Train Systems I:** Upon completion of this course, students should be able to: disassemble, repair as necessary, and reassemble the following components: clutches, manual transmissions (three, four, and five speed), drive lines, and differential units. (2-6) 4

**AUT 5426 Auto Power Train Systems II:** Upon completion of this course, students should be able to: disassemble, repair as necessary, and reassemble the following automatic transmissions: General Motors Powerglide, C-4 Ford, General Motors Turbo-350, Chrysler Torqueflite. (2-6) 4

**AUT 5427 Auto Power Train Systems III:** Upon completion of this course, students should be able to disassemble, repair as necessary, reassemble, and diagnose front wheel drive and automatic overdrive transmissions. Prerequisites: AUT 5425 and AUT 5426. (2-6) 4

## Banking and Finance

**BAF 3300 Introduction to Commercial Lending:** Upon completion of this course, students should be able to: describe the lending function of a commercial bank; prepare financial reports using accepted formats; explain loan department functions and interaction with loan customers; apply the steps in the decision process as it involves structuring the loan; apply proper procedures in problem loans; manage the loan portfolio; explain the influence of regulations; describe the business development function. (3-0) 3

**BAF 3400 Principles of Banking:** This course will focus on the basic functions and operations of banking and a working knowledge of the operation of a bank. Upon completion of this course, students should be able to: perform basic functions of commercial banking; demonstrate working knowledge of the



operation of a commercial bank in the management of bank funds, bank control systems, and paying teller operations; identify and define the principles underlying the major objectives sought in banking operations. (4-0) 4

**BAF 3401 Bank Management:** This course is designed to provide the prospective bank manager with a practical and conceptual grounding in bank management. It examines the issues that bank managers deal with on a daily basis, including staffing and management controls, and organizational planning. Upon completion of this course, students should be able to: formulate objectives and policies; interpret deposit, trust and loan functions; describe current banking issues; describe use of bank funds; explain bank investment accounts; interpret the art of management; demonstrate cases in bank management. (4-0) 4

**BAF 3402 Law and Banking:** This course is designed to equip students with a non-technical, clear understanding of all aspects of the legal system that directly affect banks. Upon completion of this course, students should be able to: describe the court system and civil procedures; define consumer protection; describe and explain negotiable instruments and secured transactions. (4-0) 4

**BAF 3403 Money and Banking:** This course is designed to present basic economic principles as they relate to banking. Upon completion of this course, students should be able to: explain the economy and how it works; describe the Federal Reserve System and the business of banking as related to these areas; define the monetary policy and its impact on financial markets and banks; discuss alternative theories of money's role in the economy; state fiscal policy; interpret trends in banking. (4-0) 4

**BAF 4401 Management of Commercial Bank Funds:** Students will become familiar with various bank funds, their sources, control of each bank liquidity needs and management of the funds. Upon successful completion of this course, students should be able to: discuss the major sources and uses of bank funds; analyze investment portfolios in terms of value and yields list; describe coordination of asset and liability management; describe the types of non-money market liabilities; explain the liquidity needs of banks. (4-0) 4

**BAF 4403 International Banking:** Upon completion of this course, students should be able to: describe the basic framework and fundamentals of international banking; explain how money is transferred from one country to another; discuss the methods of financing international trade; list and describe the international agencies involved with international currency markets. (4-0) 4

**BAF 4404 Branch Management:** Upon completion of this course, students should be able to: demonstrate an ability to implement management by objectives; conduct performance evaluations; resolve personnel conflicts; perform the lending function—loan documentation, collateral, financial statements; describe branch organizational structure, teller and platform functions; supervise branch operations including budgeting. (4-0) 4

**BAF 4405 Corporate Banking: A Practical Approach to Lending:** Upon completion of this course, students should be able to: describe management issues and lending policies; demonstrate ability to perform the role of account officer; apply methods of analysis to loan requests; perform functions of loan structuring, pricing, documentation and administration; analyze problem loans—causes, defenses and resolutions. (4-0) 4

**BAF 4406 Credit Department Management:** Upon com-

pletion of this course, students should be able to: describe departmental management, organization and staffing policies; conduct credit investigation and analysis; apply credit techniques to bank operations; analyze unusual type loans; handle specific credit problems; analyze training needs; conduct training. (4-0) 4

**BAF 4407 Federal Regulation of Banking:** This course incorporates the pervasive and significant changes that have occurred in banking regulation in recent years. This newly updated course looks at the "why" and "what" of federal bank supervision. Emphasis is placed on the federal government's influence on bank operations through fiscal and monetary policy decisions. Upon completion of this course, students should be able to: describe regulatory structure—federal agencies; demonstrate ability to prepare bank reports; explain rating and monitoring systems; describe federal limitations on banking operations; describe enforcement powers of federal authorities; discuss strategies of bank expansion; explain multinational banking; discuss issues and changes for the future. (4-0) 4

**BAF 4408 Inside Commercial Banking:** This course, an advanced introduction to the banking system, provides a topical look at the changing role of banks. Emphasis is conceptual rather than operational. Designed to familiarize students with the broader issues facing the banking industry, it includes changes necessitated by technological advances, recent legislation, and new approaches to global banking. Upon completion, students should be able to: name the historical highlights of the banking industry; identify effective bank management—planning, structure and control; identify sources and uses of funds—changes and growth; define wholesale and retail banking; explain electronic funds transfer systems; define multinational banking; define specialized services—trust and cash management; identify regulatory constraints; discuss state issues and challenges for the future. (4-0) 4

**BAF 4409 Consumer Lending:** This course emphasizes pragmatic "how-tos" that detail the many types of credit arrangements in which a finance charge is paid for the privilege of repaying debts in delayed payments. Upon completion of this course, students should be able to: identify collection policies and procedures; explain principles of credit evaluation; describe marketing bank services; define open-end credit; identify direct lending; explain the leasing of consumer goods; identify the legal aspects of installment credit; conduct financial statement analyses; identify rate structure and yield analysis; describe indirect lending; explain insurance for installment lending; use appropriate techniques in organizing and managing an installment loan department. (4-0) 4

**BAF 4410 Bank Investments:** This course presents the factors that affect investment strategies and decisions, grounded in a framework of fundamental investment concepts such as risk, liquidity and yield. The basic characteristics of the major types of bank investments are studied, along with the relationship of investment management to other areas of banking and the national economy. Upon completion of this course, students should be able to: identify and describe securities—U.S. Treasury, federal agency, state and local; define revenue bonds, money market investments, securities markets; explain investment objectives—short-term and long-term; identify tax factors in bank investment; explain primary and secondary reserves; and define investment accounts—maturity strategies. (4-0) 4

**BAF 4411 Loan Officer Development:** Upon completion of this course, students should be able to: conduct loan interviews and identify problems; demonstrate ability in the subjective



skills and judgment-forming abilities needed throughout the lending process; demonstrate decision-making under conditions of uncertainty and time pressures; apply listening and remembering skills. (4-0) 4

**BAF 4412 Marketing for Bankers:** This course provides a thorough grounding in basic marketing principles and theory and their practical application to the banking industry. Upon completion of this course, students should be able to: conduct marketing in the organization; interpret consumer motivation and buying behavior and apply marketing information and research to this area of banking; identify and explain the marketing management process—situational analysis, formulation of a master marketing strategy, performance monitoring and evaluation; demonstrate knowledge of marketing as it relates to the wholesale side of banking; describe the significance of public relations and communications to the banking industry. (4-0) 4

**BAF 4413 Negotiable Instruments and the Payments Mechanism:** Upon completion of this course, students should be able to: describe the legal aspects of bank operations; identify and utilize various forms of commercial paper; apply procedures of check handling and payment mechanisms; conduct deposit and collection activities; describe payor bank and its customer drawer activities. (4-0) 4

**BAF 4414 Real Estate Finance:** This course provides a background in the varied real estate credit operations of commercial banks. It addresses the manner in which funds are channeled into mortgage markets, the financing of residential and special purpose property and administrative tasks common to most mortgage departments. Upon completion of this course, students should be able to: identify sources of mortgage credit; demonstrate knowledge of federal assistance in the mortgage market; demonstrate knowledge of financing single-family homes, condominiums, industrial and agricultural properties and shopping centers; conduct analysis of mortgage credit and real estate investment; describe collection policies and procedures; identify and use forms and documents used to process mortgage loans; conduct research related to real estate financing. (4-0) 4

**BAF 4415 Savings and Time Deposit Banking:** Upon completion of this course, students should be able to: describe financial institutions—competition and savings; discuss management of bank funds; identify types of savings and time deposits; explain operations and controls; explain regulation and examination of banks; discuss bank marketing strategies; discuss the impact of automation. (4-0) 4

**BAF 4416 The Trust Business:** This course provides an overview of the trust department. Upon completion of this course, students should be able to: explain the role of the trust department in a commercial bank and how it fits into the overall banking business; identify the services provided and how they are delivered; describe the changing role of the trust department. (4-0) 4

**BAF 4417 Trust Management:** This course describes the organization, operation and services of the trust department. Incorporating practical management suggestions, it is designed to transmit information needed in the day-to-day management of a trust department. Upon completion of this course, students should be able to: explain the role of the board of directors as it affects policy development and department organization; explain profitability and management trends and issues; identify estates, personal trusts, employee benefit trusts, corporate trusts; demonstrate a knowledge of business development, investments and tax administration. (4-0) 4

**BAF 4418 Savings Banking Today:** Upon completion of this course, students should be able to: discuss the organization of savings institutions; describe bank marketing techniques; apply appropriate procedures for deposits, checks and check processing; identify fund management strategies; process consumer loans; explain savings bank life insurance. (4-0) 4

**BAF 4419 Bank Cards:** This course presents an overview of the bank card industry by charting its dynamic growth over the last two decades and projecting its course into the future. Basic operational aspects of a bank card system will also be studied, with emphasis on the computer processing systems that handle the accounts, and on the operations within a major card-issuing bank. Upon completion of this course, students should be able to: explain the importance of the bank card in the economy; identify and explain the two national card systems—history and relationship with banks; demonstrate a knowledge of the processing system—issuance, authorization and billing; interpret functions of the operation—credit, collection, customer service, security and cost control; describe the legal and regulatory environment; explain related bank card services; discuss implications for the future. (4-0) 4

**BAF 4420 Deposit Operations:** This course emphasizes the deposit operations of banks in the context of the U.S. payments systems. Emphasis is placed on systems rather than product or instrument. Upon completion of this course, students should be able to: explain how banks operate relative to their deposit-taking activities and management of deposited funds; describe the impact of the external environment on determining why banks operate the way they do; demonstrate a knowledge of government rules and regulations; and discuss trends of America's payment mechanisms. (4-0) 4

## Biological Science

**BIO 1500 Biological Science:** A foundation course designed to introduce selected fundamental biological principles. Upon completion of this course, students should be able to demonstrate an understanding of the following topics: the cell, reproduction, genetics, embryology, transport mechanisms, photosynthesis, respiration, evolution and ecology. (3-4) 5

**BIO 1501 General Botany:** An introductory study of green and non-green plants. Upon completion of this course, students should be able to demonstrate a knowledge of the following topics: plant cell structure and function, taxonomy, reproduction, genetics, mineral nutrition and ecology. (3-4) 5

**BIO 1502 General Zoology:** An introductory study of the major groups of animals. Upon completion of this course, students should be able to demonstrate knowledge of animal anatomy, physiology, homology, ecology, life histories, classification and evolution. (3-4) 5

**BIO 1503 Microbiology:** An introduction to the world of microorganisms—bacteria, viruses, fungi, protozoa and Rickettsia—with emphasis upon bacteria. Students, upon completion of this course, should have gained knowledge of the structure of microorganisms, interrelationships among them, factors influencing their growth, and some effects of their activities upon people. (3-4) 5

**BIO 1504 Human Anatomy and Physiology I:** An introductory course in the normal structure and function of human body systems, emphasizing interrelationships of each. Upon completion of this course, students should be able to demonstrate knowledge of the following systems: cellular biology, tissues, skeletal, muscular, nervous and sense organs. (3-4) 5

**BIO 1505 Human Anatomy and Physiology II:** A continuation of BIO 1504 with emphasis on the following systems: circulatory, respiratory, digestion, endocrine, reproduction, urinary, acid base and fluid-electrolyte. (3-4) 5

**BIO 2300 Genetics:** A study of the fundamental laws of heredity with emphasis on human heredity. Having completed this course, students should be able to demonstrate a working knowledge of the behavior of chromosomes and genes, mutation and chromosomal abnormalities and quantitative inheritance, gene and chromosome structure, cytoplasmic inheritance, evolution, population genetics, environment and heredity, and eugenics. (3-0) 3

**BIO 2304 Human Nutrition:** Upon completion of this course, students should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing relating to nursing. (3-0) 3

**BIO 2305 Dental Nutrition:** Upon completion of this course, students should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing relating to dental hygiene. (3-0) 3

**BIO 2500 Introduction to Entomology:** A basic course designed to give a practical approach to the study of insects. Upon completion of this course, students should be able to demonstrate a knowledge of the fundamentals of insect classification, development, food habits and controls. (3-4) 5

**BIO 2501 Ornithology:** An introduction to the study of birds. Upon completion of this course, students should be able to demonstrate knowledge of anatomy, physiology, ecology, life histories, behavior, evolution, and identification of birds. (3-4) 5

**BIO 2502 Marine Biology:** Upon completion of this course, students should be able to demonstrate—orally or in writing—understanding of topics on marine biology, with emphasis on field studies of various marine habitats (including the beach intertidal zone, the salt marsh, mud flats, salt water creeks and the open ocean). Prerequisite: BIO 1502 or consent of instructor. (3-4) 5

**BIO 2504 Selected Topics in Biology:** This course is offered in order to comply with the needs of students who want subject matter not included in other courses offered by the Biology Department. Upon completion of this course, students should have an understanding of such courses as: Animal Behavior, Marine Biology, General Ecology, Embryology, Histology, Exercise Physiology, Parasitology, Physiology, Crop Plants, Local Flora, Plant Anatomy and Plant Morphology. TBA

**BIO 2514 Vertebrate Zoology:** An introductory study of the vertebrate animals. Upon satisfactory completion of this course, students should be able to demonstrate knowledge of vertebrate anatomy, physiology, embryology, systematics, homology, life histories, ecology, behavior, and evolution. (3-4) 5

**BIO 2524 General Ecology:** An introductory course in general ecology and environmental function. Upon completion of this course, students should be able to demonstrate a knowledge in the following areas: animal and plant interrelationships, habitats, energy flow, biogeochemical cycles and the economic importance of ecology. A laboratory is included, which should point out to the student the importance of pollution problems and their effects on normal ecological systems. (3-4) 5

**BIO 3404 Cardio-Pulmonary Anatomy and Physiology:** A specialized course to provide an in-depth study of cardiovascular

and respiratory functions and their interrelationships. Upon completion of this course, students should be able to demonstrate an understanding of Circulatory and Respiratory Anatomy and Physiology. Emphasis is placed on the interpretation of blood-gas measurements. (3-2) 4

**BIO 3600 Basic Health Science:** An introductory course in the normal structure and function of the human body. Upon completion of this course, students should be able to discuss the anatomy, physiology and interrelationships of the following systems: musculoskeletal, nervous, circulatory, respiratory, urinary, endocrine and reproductive. (5-2) 6

**BIO 9500 Introduction to Biology:** An individualized instruction course for students who need to update or review basic concepts in Biology. Upon completion, students should be able to demonstrate an understanding of six of the following units: Cell structure and function, DNA, Meiosis and Mitosis, Heredity, Biochemistry, Respiration and Photosynthesis, Microbiology, Human Anatomy, Classification, Embryology, Nutrition, Ecology. (5-0) 5

## Business

**BUS 1400 Introduction to Business:** Upon completion of this course, students should be able to: describe the legal and economic environment of business; discuss the basic types of internal and external business forms; describe the functions of business; discuss the role of management in the business enterprise. (3-2) 4

**BUS 2304 Business Law I:** This course is primarily concerned with contracts, their creation and discharge as applied to business and everyday life. Upon completion of this course, students should be able to: list the elements of a contract and apply them to factual situations; analyze situations that will preclude the assent necessary to form a contract and explain when a contract must be in writing; differentiate between situations that will cause a breach of contract; recognize personal and business crimes and torts; discuss contract law and the effect of the Uniform Commercial Code on contracts. (3-0) 3

**BUS 2305 Business Law II:** This course continues the study of the Uniform Commercial Code and other business laws. Upon completion of this course, students should have a working knowledge of sales, commercial paper and secured transactions. They should be able to: recognize and define a sale of goods; differentiate between common law contracts and those under Article II of the UCC; apply various common terms such as FOB, COD, sale or return, sale on approval to various situations and recognize which party has the risk of loss as well as being able to apply the rules for performance of a sales contract; recognize and distinguish various types of warranties; discuss the various terms and forms applicable to secured transactions; distinguish negotiable instruments from ordinary contracts; recognize a holder in due course; demonstrate a general knowledge of the banking functions. Prerequisite: BUS 2304 or consent of division head. (3-0) 3

**BUS 2306 Business Law III:** Upon completion of this course, students should be able to: distinguish agency from other relationships; list the different ways to create the agency relationship; define the various types of authority; list the various ways the agency relationship can be terminated; list the classifications of property and their main characteristics; list the elements of a bailment, enumerate the classifications of bailments and analyze the standards of care applied to each class; list and understand the rights and liability of partners; define the causes



and grounds for dissolution of the partnership; distinguish a corporation from other forms of business organization; list the various ways to finance a corporation; list the various rights of stockholders; differentiate between a stockholder's role and a director's role in corporate management; list the different types of estates in land and their characteristics; list the requirements of formal wills. Prerequisite: BUS 2304 or consent of division head. (3-0) 3

**BUS 3300 Human Relations in Business:** This course is primarily designed to allow students to learn and practice skills which enhance effective interactions in the business environment. Upon completion of this course, students should be able to: define and trace the development of the human relations field; communicate effectively; explain and apply motivational techniques; understand and apply their own creative potential; recognize job stress and develop strategies coping with stress; resolve various job conflicts; discuss ego states and life scripts; describe the behavioral characteristics of the Geier Profile personality traits. (3-0) 3

**BUS 3304 Business Statistics:** Upon completion of this course, students should be able to: differentiate between descriptive and inferential statistics; calculate measures of central tendency and variability; employ "z" tables; discuss probability theory and its uses; calculate regression and correlation coefficients. Prerequisite: FIN 3314 or MAT 3504. (3-0) 3

**BUS 4303 Labor Law:** This course surveys the various laws that affect the employee/employer relationship, such as wage and hour laws, child labor laws, OSHA and NLRB rules and regulations. Upon completion of this course, students should be able to recognize which of the various agencies control a specific employee/employer relationship and describe the basic procedures used by these agencies. (3-0) 3

**BUS 4340 Consumer Credit:** Upon completion of this course, students should be able to: discuss the role of credit in the American economy; list the major characteristics of retail revolving, charge and installment credit; discuss the principles of consumer credit management; describe the process of credit investigation; discuss the role of various consumer credit institutions; apply knowledge to the development of a "case" consumer credit department. (3-0) 3

**BUS 4341 Commercial Credit:** Upon completion of this course, students should be able to: differentiate between consumer and commercial credit; discuss business use of credit; define the role of the commercial credit manager; list and discuss the sources of credit information; differentiate between various credit institutions; analyze financial statements; develop a set of credit standards for a business; apply those standards to a "case" commercial credit department. (3-0) 3

**BUS 4344 Credit Management Problems:** Upon completion of this course, students should be able to employ decision making skills in credit management through the use of financial statements, credit reports, bank references, and related credit documents. Prerequisite: BUS 4341 and FIN 4317 or consent of the division head. (3-0) 3

**BUS 4394 Individual Study—Business Administration:** This course provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor, division head and appropriate vice president is required. (3-0) 3

## Chemistry

**CEM 3300 Fire Protection Chemistry:** This course is designed specifically to meet the needs of Fire Protection Technology students in preparation for FIP 3504—Chemistry of Flammable Materials and FIP 4434—Chemical and Radiation Hazards. Topics of study include: matter, energy, atomic structure, chemical reactions, equations, solutions, water acids, bases, salts, and organic chemistry. Approximately one-third of the course will introduce organic structures, bonding, naming, classification, functional groups, and halogenated hydrocarbons. Text materials are on a college reading level. Prerequisites: grade of C or better in high school chemistry, CHM 9500 or LLB 9200. (3-0) 3

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**CHM 1500 Introductory Chemistry:** An introductory course with laboratory experiences designed for students with little or no background and no prior interest in chemistry. The topics integrate basic chemical principles with environmental and technological applications. Upon completion of this course, students should be able to demonstrate an understanding of some of the basic concepts of chemistry and their applications. (3-4) 5

**CHM 1501 Chemistry for the Health Professions I:** A general chemistry course designed for students preparing for a career in the allied health areas such as nursing, dental hygiene, respiratory therapy; also for the student in the liberal arts. Topics include a study of the fundamental concepts, laws and theories of inorganic chemistry with laboratory experimentation. Upon completion of this course, students should be able to demonstrate an understanding of basic chemical principles of inorganic compounds. Prerequisite: high school chemistry, high school algebra, or MAT 9510. (3-4) 5

**CHM 1502 Chemistry for the Health Professions II:** A continuation of CHM 1501 with laboratory experimentation which includes an introduction to organic chemistry and biochemistry. Upon completion of this course, students should be able to demonstrate an understanding of the chemistry of carbohydrates, lipids, proteins, nucleic acids, enzymes, vitamins and hormones and their role in metabolic processes. CHM 1502 may be of interest to students entering the fields of biology, medicine or dentistry, as an introduction to biochemistry. Prerequisite: CHM 1501. (3-4) 5

**CHM 1503 Dental Hygiene Chemistry:** A one-quarter course designed for dental hygiene students. It is made up of units of general chemistry followed by some organic and biochemistry. Upon completion of CHM 1503, students should be able to demonstrate competency in general chemistry, introductory organic chemistry and the chemistry of carbohydrates; knowledge of lipids, proteins as well as the functions of enzymes and hormones. Prerequisites: High school chemistry; high school algebra or MAT 9510. (3-4) 5

**CHM 1504 General Chemistry I:** A study of the fundamental principles and laws of chemistry with emphasis on the relationship of atomic structure to physical and chemical properties of the elements. Individualized lab experiments deal with the verification of chemical laws and the development of problem-solving skills. Applications of chemical principles will be made in the area of environmental problems such as energy and pollution. After completing this course, students should be able to: apply the scientific method in problem solving; demonstrate the basic laboratory techniques for successfully and safely conducting chemical experiments; solve problems and demon-



strate an understanding and appreciation of certain chemical laws, principles, concepts and theories such as: metric system, atomic structure, laws of chemical combinations, stoichiometry, gas laws, kinetic molecular theory, theory of chemical bonding and simple nomenclature; relate the knowledge of chemistry to the real world such as identifying specific societal problems created and/or solved by the science of chemistry. The following students should take the CHM 1504, CHM 1505, CHM 1506 sequence: students with major emphasis in forestry, agriculture, dentistry, optometry, paramedics, medicine, pharmacy, nursing (B.S. degree), geography, textiles, chemical technology, geology, biology, and any other areas of science and math. Prerequisite: MAT 9510 or two years of high school algebra and/or the following: Corequisite: MAT 1504 or MAT 1514 or MAT 3504 or departmental consent. (3-4) 5

**CHM 1505 General Chemistry II:** A continuation of CHM 1504, with emphasis on chemical equilibrium, kinetics, solution stoichiometry, acid-base theories, and electrochemistry. Some chemical application will be made in the areas of environmental problems, biological systems and industrial processes. After completing this course, students should be able to: solve problems dealing with systems in equilibrium; solve solution problems; recognize and apply various acid-base theories to chemical equations; demonstrate an understanding of such things as redox potentials, reactions kinetics, and colligative properties of solutions. Prerequisite: CHM 1504 or departmental consent. (3-4) 5

**CHM 1506 General Chemistry III:** A continuation of CHM 1505 with emphasis on ionic equilibrium and relating chemical properties to atomic and molecular structures. Includes introduction to organic chemistry. Both qualitative and quantitative analysis, with the use of some instrumentation, are included. Applications are made to biological systems and to environmental problems. After having completed this course, students should be able to demonstrate an understanding of ionic equilibrium by solving various problems dealing with pH, hydrolysis,  $K_{sp}$ , buffers, redox titration and acid base titrations. Students should be able to relate chemical and physical properties of common elements and ions to the periodic table and show well-developed lab techniques in experiments involving weighing, filtering and titrating. Prerequisite: CHM 1505 or departmental consent. (3-4) 5

**CHM 2404 Special Problems:** An advanced problem course of independent study in which a student and adviser select an appropriate topic for both laboratory and library research in the field of chemistry. After completing this course, students should be able to conduct a relatively simple library and lab research project in chemistry successfully, and present the results in proper written form. Prerequisite: CHM 1506 or departmental consent. 3-5 credits.

**CHM 2414 Introductory Organic Chemistry:** An introductory organic chemistry course designed for students who may need a review of certain laws, principles and facts from general chemistry that are fundamental to organic chemistry. A brief review of atomic structure, bonding, and acid base theories is included. It is a non-lab survey course for both the science and the non-science student. Chemical and physical properties of various compounds and common functional groups are related to their structure. Nomenclature and practical applications to related fields and to the real world are emphasized. Although this is designed as a pre-organic chemistry course, other interested students should be successful in the course. After having completed this course, students should: have a basic knowledge of organic chemistry to be successful in a higher level organic

course; be able to apply the learning to other fields of study such as biology; be able to relate the knowledge to the real world. Prerequisite: CHM 1500 or CHM 1501 or CHM 1504. (4-0) 4

**CHM 2455 Textile Coloring and Testing:** Upon completion of this course, students should be able to: dye fibers and fabrics of cotton, wool, acetate, nylon and polyester in the laboratory; describe large scale dyeing and finishing of some of these materials in area industries. Prerequisite: CHM 1505 or equivalent. (2-4) 4

**CHM 2604 Quantitative Chemical Analysis:** This course emphasizes a variety of analytical methods. Students successful in this course will be able to make accurate analyses using both volumetric and gravimetric methods. They will also perform well in the use of the calorimeter, potentiometer and infrared spectrophotometer. Prerequisite: CHM 1506 or departmental consent. (3-6) 6

**CHM 2614 Organic Chemistry I:** A systematic study of the theories, principles and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Reaction mechanisms are emphasized. Some chemical applications are made to environmental problems and to industrial processes. Laboratory work includes purification, characterization and synthesis of organic compounds with emphasis on the improvement of scientific problem-solving skills. After completing this course, students should be able to: name the common members of the families of organic compounds studied and describe their chemical and physical properties; demonstrate a working knowledge of organic synthesis of the compounds studied based on reaction mechanisms; perform common organic lab experiments in a reasonably safe manner using proper techniques; recognize and/or describe simple chemical tests for certain functional groups. The following students should take the CHM 2614-CHM 2615 sequence: students with major emphasis in dentistry, optometry, medicine, paramedics, engineering (chemical, petroleum, sanitation, environmental), pharmacy, textiles, chemical technology, chemistry and biology. Prerequisite: CHM 1506 or departmental consent. (4-4) 6

**CHM 2615 Organic Chemistry II:** A continuation of CHM 2614 with a greater emphasis on instrumental analysis in the laboratory. Introduction to biochemistry is included. After completing this course, students should be able to identify some unknown organic compounds using NMR, UV, IR and mass spectra. They should be able to recognize the chemical properties of the common functional groups and should have well developed lab techniques as demonstrated in the identification and synthesis of certain organic compounds. Prerequisite: CHM 2614 or departmental consent. (4-4) 6

**CHM 2625 Chromatography:** Upon completion of this course, students should be able to: describe techniques of physical separation of complex mixtures; enumerate conditions favorable to differential migration of simple components in a chromatographic separation; make separations of mixtures employing paper, thin layer, and gas chromatography. Prerequisite: CHM 1505. (3-6) 6

**CHM 2626 Optical Methods of Chemical Analysis:** Upon completion of this course, students should be able to: perform analyses employing such optical instruments as the polarimeter, refractometer, colorimeter, fluorimeter, infrared spectrophotometer; enumerate most of the theoretical relationships upon which the operation of these instruments are based. Prerequisite: CHM 1506. (3-6) 6

**CHM 9500 Fundamentals of Chemistry:** This course is

designed to provide students with a basic foundation in chemistry as preparation for college curriculum courses. Matter, energy, formula writing and equation balancing, ionization, acids and bases, metric system and introductory biochemistry are the units available for study. College Transfer students, Health Program students, Fire Protection Technology and other technical program students will benefit from completing this course. Highly recommended Prerequisite or Corequisite: LLB 9200. (0-10) 5

## Civil Engineering Technology

**CIV 3306 Construction Materials and Methods:** Upon completion of this course, students should be able to: identify construction materials and their physical properties; discuss the manufacturing processes used to produce common building materials; identify types of construction equipment and their application; explain the methods used to assemble building components; evaluate the actual application of construction techniques through site visitation. (2-3) 3

**CIV 3504 Surveying I:** Upon completion of this course, students should be able to: measure distances with a surveyor's tape or an electronic distance measuring device; apply geometric principles to correct a taped distance for a standardized measurement; perform the calculations and field operations for a differential and profile leveling; use a transit for the measurement of horizontal and vertical angles; calculate bearings and azimuths; collect data and plot a contour map. Prerequisites: MAT 3507 and ARC 3334. (3-6) 5

**CIV 3514 Statics:** Upon completion of this course, students should be able to: identify and differentiate between various force systems; solve problems involving the effects of forces acting on bodies at rest; solve by various methods for magnitude, direction sense, and point of application of unknown forces to maintain static equilibrium; apply the fundamentals of static friction; locate centroids of composite areas; compute the rectangular moment of inertia of an area about various axes; apply principles of statics to hydraulic problems. Prerequisite: MAT 3507. (3-6) 5

**CIV 3524 Strength of Materials:** Upon completion of this course, students should be able to: identify types of stresses that develop in structures; compute deformation and strain in bodies due to stress systems acting on the body, including torsional as well as axial; construct shear and bending moment diagrams of beams; solve for stresses caused by tension bending and shear; compute the deflection in beams; calculate stresses due to combined axial and bending loads; analyze and design welded and bolted connections; apply Euler's equation to columns. Prerequisite: CIV 3514. (3-6) 5

**CIV 4204 Construction Planning (CPM):** Upon completion of this course, students should be able to: define the operations comprising a construction project; establish time estimates for each operation; determine the proper sequence of operations and coordination of building trades; apply manually and using a computer the critical path method (CPM) to construction planning and scheduling; allocate resources and level manpower; analyze time-cost relationship. Prerequisite: CIV 3306 and ARC 4200. (1-3) 2

**CIV 4220 Principles of Hydraulics:** Upon completion of this course, students should be able to: identify various properties of fluids; understand and apply the principles of hydrostatic

pressures to practical problems; analyze flow characteristics over weirs; analyze flow characteristics in open channels. Prerequisite: CIV 3514 and MAT 3507. (1-3) 2

**CIV 4227 Microcomputer Applications Project:** Upon completion of this course, students should have developed the necessary software to enable use of the microcomputer as a problem-solving tool for a significant Architectural or Civil Engineering Technology application. The application must have significant technical depth and potential practical application for the practicing engineering technician. Projects will be selected by each student from relevant areas after consultation with the course instructor. Prerequisites: EDP 3405, CIV 4427 and CIV 4434. (1-3) 2

**CIV 4300 Codes and Contracts:** Upon completion of this course, students should be able to: demonstrate a basic understanding of the N.C. commercial and residential building codes; recognize and utilize basic contract terminology; state the basic principles of contractual relationships; discuss the bidding processes relative to contracts. Prerequisite: ARC 3335 or equivalent. (2-3) 3

**CIV 4302 Plain Concrete:** Upon completion of this course, students should be able to: describe the characteristics of coarse and fine aggregates, and properties of cement and water suitable for use in Portland Cement Concrete; design a concrete mix based on strength and durability requirements; conduct tests for compressive strength on concrete cylinders; evaluate the effect on strength of concrete of various water/cement ratios, curing methods, and admixtures; observe the actual application of concrete construction technology through site and plant visitation. (1-6) 3

**CIV 4305 Construction Estimates:** Upon completion of this course, students should be able to: discuss the various bid terms and contract documents as they affect construction; determine the cost of various equipment and methods necessary for construction; complete quantity take-offs on commercial and residential construction; apply pricing to quantity surveys; use approximate methods for determination of building costs. Prerequisites: ARC 3335 and CIV 3306. (2-3) 3

**CIV 4344 Construction of Roads and Pavements:** Upon completion of this course, students should be able to: perform and interpret the results of the Atterburg Limits, Standard Proctor, California Bearing Ratio and Unconfined Compression Tests; classify soil according to the Unified and AASHTO Classification Systems; discuss the engineering properties of soils and calculate mass-volume relationships; construct a Mass Diagram from a set of cross-section notes and compute average haul and limit or economic haul; compute run-off from drainage area; determine culvert and ditch sizes; determine the thickness of flexible and rigid types of highway surfaces; design an asphalt mix by the Marshall Method. Prerequisites: CIV 4302, CIV 3542 and CIV 4406. (1-6) 3

**CIV 4405 Surveying II:** Upon completion of this course, students should be able to: collect data for a closed traverse using a theodolite and an EDM; balance and plot a closed polygon traverse; tie traverse into The State Plane Coordinate System; locate topography within traverse by stadia and use of plane table; compute areas by coordinate method and double meridian distance method; use rectangular coordinates to inverse bearings and lengths; determine true meridian by solar or polaris observation. Prerequisite: CIV 3504. (2-6) 4

**CIV 4406 Surveying III:** Upon completion of this course, students should be able to: use the County Register of Deeds Office records to research property records and state the



requirements for filing of property maps and deeds; discuss the legal aspects of surveying based on the N.C. Manual of Practice; lay out cross-sections of roadways and, from the sections, compute earthwork quantities; calculate and stake out horizontal and vertical roadway curves; apply the methods of lines and grades to a roadway design problem; lay out foundations and give lines and grades for construction of a building; discuss basic theory of photogrammetry and its application. Prerequisite: CIV 3504. (2-6) 4

**CIV 4424 Foundation Construction:** Upon completion of this course, students should be able to: list the techniques of subsurface soil investigation; apply earth pressure theories for bearing capacity and principles of foundation action; determine lateral earth pressure both analytically and graphically; analyze and design reinforced concrete wall footings, individual column footings, combined column footings, combined footings, pile foundations and retaining walls, using ultimate strength method; design excavation bracing. Prerequisites: CIV 4427 and CIV 4434. (3-3) 4

**CIV 4427 Steel and Timber Design:** Upon completion of this course, students should be able to: analyze and design steel beams, tension members, columns, members involving combined axial and bending stresses, continuous spans, welded, bolted and riveted connections; use the latest American Institute of Steel Construction Manual and specifications; analyze and design timber members. Prerequisite: CIV 3524. (3-3) 4

**CIV 4434 Reinforced Concrete Design:** Upon completion of this course, students should be able to: analyze and design by means of the ultimate strength method of the latest ACI Building Code: reinforced concrete rectangular beams, T-beams, continuous members, columns, and floor systems, composed of beams and one-way slabs; use the latest CRSI Design Handbook; calculate the basic stresses of prestressed concrete beams; design forms for concrete structures. Prerequisites: CIV 3306, CIV 3524 and CIV 4302. (3-3) 4

**CIV 4-94 Independent Study:** This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 credits)

(Also see *Architectural Technology* for other course descriptions.)

## Commercial Art (see: ADV, ART, EDN)

## Communications

**COM 1304 Introduction to Communications:** This course deals with the development and improvement of thinking skills and the effective use of language, particularly in writing multi-paragraph assignments. Upon completion of this course, students should be able to recognize and use such logical processes as causation, comparison-contrast, classification and analysis. They should also be able to evaluate and revise their own writing. Prerequisite: Approved placement exam score, successful completion of ENG 9510, or consent of department head. (3-0) 3

**COM 1305 English Composition II:** This course is designed to provide students with opportunities to develop critical thinking skills which will be used in writing compositions based

upon the students' analysis and interpretation of prose selections, including the short story and the novel. Some secondary sources will be used in addition to the fiction. Prerequisite: COM 1304 or consent of department head. (3-0) 3

**COM 1306 English Composition III:** Upon completion of COM 1306, students should be able to use basic research techniques to write a formally documented research paper. They should also be able to write critically and objectively about ideas expressed in drama and poetry. Prerequisite: COM 1305 or consent of department head. (3-0) 3

**COM 1324 Creative Writing:** This course is designed to provide students with the opportunity to practice the craft of writing, to find pleasure in writing as a means of self-expression, and to explore techniques which aid in sharpening their writing styles. Emphasis is placed on the basic elements of fiction and poetry. Students' writings are read and analyzed in class. (3-0) 3

**COM 1325 Advanced Creative Writing:** For students with creative work already in progress, this course probes the practical aspects of technique, style and development with an emphasis on the short story and poetry. Students' writings are analyzed in class. Attention is given to the process of revision—of refining and shaping the work into a polished form. Prerequisite: COM 1324 or consent of department head. (3-0) 3

**COM 2390 Individual Study:** This course provides students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the department. Objectives will be determined by the student and the sponsoring instructor. Prerequisite: Approval of the sponsoring instructor and the department head. (3-0) 3

**COM 3301 Writing for Law Enforcement:** Upon completion of this course, students should be able to spell and define vocabulary commonly used in police reporting. They should also be able to write a grammatically and mechanically correct report based on appropriate field notes which consist of a precise, objective narration using accepted law enforcement forms and formats. Corequisite: Acceptance into Charlotte Police Academy. (3-0) 3

**COM 3305 Communications II:** Upon completion of COM 3305, students should be able to prepare various types of business communications including letters, memoranda and resumes. They should also be able to demonstrate application of the basic principles of English by developing adequate sentences, paragraphs and whole compositions. Prerequisite: COM 1304 or consent of department head. (3-0) 3

**COM 3306 Communications III:** Upon completion of COM 3306, students should be able to use multiple resources to research, develop and write a report pertaining to their chosen program and should be able to prepare various types of communications including formal definitions, descriptions of mechanisms and processes. Prerequisite: COM 3305 or consent of department head. (3-0) 3

**COM 3515 Advanced Grammar:** Upon completion of this course, students should be able to identify constructions, forms and usages of words and the relationship of words within a sentence. They should also be able to compose sentences according to given structural patterns and to apply basic rules of grammar. Prerequisite: COM 1304 or consent of department head. (5-0) 5

**COM 4324 Copywriting I:** In this course, students will learn the basics of writing effective copy for print media (newspapers and magazines) and outdoor advertising. They will pro-



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duce copy and layouts, and be able to fit copy using appropriate type specifications. Prerequisite: COM 1304. (3-0) 3

**COM 4325 Copywriting II:** In this course, students will apply copywriting basics to produce copy for broadcast media (radio and television) in appropriate formats to include storyboard for television. Prerequisite: COM 4324 or consent of department head. (3-0) 3

**COM 5500 Communications Skills:** Upon completion of COM 5500, each student should be able to: spell and define words directly related to the student's technical or trade area; write job-related letters and a personal resume; discuss a given topic both orally and in writing; demonstrate familiarity with periodicals in the student's trade field. (5-0) 5

## Computer Science (see: EDP)

## Correctional Science

**CSC 3300 Corrections—Policies and Procedures:** Upon completion of this course, students should be able to: draw and label an organizational diagram of the North Carolina Division of Prisons; list inmate conduct rules and describe disciplinary procedures; describe the classification process of inmates; describe the system for inmates' communication with the public, to include visitation, mail, etc.; identify treatment programs offered by the N.C. Division of Prisons; describe custody and security procedures; describe medical procedures for inmates; outline standard procedures in case of a major emergency; list and describe the duties and general orders for correctional officers; list and describe the Inmate Grievance Procedure. (3-0-0) 3

**CSC 3301 Drugs, Society, and Crime:** Upon completion of this course, students should be able to: identify the significant historical events in the United States that have caused an increase in drug use and abuse; define the chemical composition of drugs used by society; identify the various drug classifications, list examples of each, and describe their uses; define psychoactive and non-psychoactive drugs and identify their differences; identify and describe the North Carolina Controlled Substances Act and the Drug Paraphernalia Act; describe various ways drug use affects our society and increases the incidence of crime; identify the drugs most commonly sold illegally. (3-0-0) 3

**CSC 3302 Assistant Court Counselor:** Upon completion of this course, students should be able to: prepare a pre-sentence investigation report; prepare a technical report including a summary, and using short definitive statements; understand and show by demonstration the proper courtroom decorum and etiquette; develop relationships with other court personnel; prepare a narrative report and make a presentation orally to a group. (3-0-0) 3

**CSC 3303 Supervision for Probation and Parole:** Upon completion of this course, students should be able to: conduct interviews with clients, families, and other interested persons; learn to assist clients by knowing the various referral agencies and resources available; prepare an assessment report detailing the needs of the client and the community; use the approved methods of supervision and surveillance of clients; use Transactional Analysis, Reality Therapy, and Behavior Modification techniques in assisting clients; intervene effectively in a crisis situation; understand the problems in dealing with substance abuse counseling. (3-0-0) 3

**CSC 3500 Introduction to Corrections:** Upon completion of this course, students should be able to: demonstrate a broad

overview of corrections, probation and parole; discuss correctional concepts; understand the rights of convicted criminals; understand correctional administrative functions; discuss various job positions and classifications common to State and Federal Agencies and institutions devoted to corrections. (5-0-0) 5

**CSC 3501 Correctional Psychology:** Upon completion of this course, students should be able to: identify the most common psychological demands, affects and effects of the corrections function upon personnel: corrections officer, treatment staff, probation and parole officer, court officer and related fields charged with supervision and treatment of persons held in confinement; demonstrate an understanding of programs used to classify and treat inmates; identify the causes of controlling people in confinement, its psychological impact on the custody staff and subordinates; identify the types of inmates and their behavioral characteristics; know the remedial services that are available. (5-0-0) 5

**CSC 3504 Juvenile Justice System:** Upon completion of this course, students should be able to: cite the history and evolution of the Juvenile Justice System; outline the present-day Juvenile Court process and procedure; identify the characteristics of juvenile offenders and their sub-culture; depict the process from arrest to final disposition for juvenile offenders; be acquainted with the variety of dispositions; differentiate between the adult and juvenile justice systems while understanding their ramifications; develop alternatives in incarceration; know the conflicting theories and ideologies of treatment and prevention; identify the need for professional personnel and their respective manpower requirements; develop the necessary attitude, empathy and knowledge to assist in working in and with the juvenile justice system. (5-0-0) 5

**CSC 3507 Criminal Personality and Behavior:** Upon completion of this course, students should be able to: identify the various viewpoints of criminal behavior as described by the sciences of psychology, sociology, and psychiatry; develop a clear definition of criminal behavior; identify behavior that is normal versus that behavior which is considered anti-social; prepare a profile of a criminal type of person as defined by society; identify and evaluate treatment methods and define their rationale in dealing with criminal offenders; compare past theories of causes of criminal behavior to current research; identify the different personalities of the following: the mentally ill, aggressively violent, homicidal, sexual offender, and female offender. (5-0-0) 5

**CSC 3514 Contemporary Correctional Institutions:** Upon completion of this course, students should be able to: discuss concepts and standards in the development of modern correctional institutions; discuss organizations, administration and manpower needs within correctional programs (State and Federal); implement the aspects of offender classification; evaluate community based correctional operations; understand the role of volunteers in corrections. Prerequisite: CSC 3500. (5-0-0) 5

**CSC 3524 Probation/Parole:** Upon completion of this course, students should be able to: discuss the origins of probation from common law through the present statutes; discuss the legal rights of prisoners in all aspects; understand how ordinary political or civil rights may be taken away as a result of criminal conviction and how they may be restored; understand parole revocation procedures from arrest, to hearing, through judicial review; discuss the types and kinds of conditions of probation; discuss group treatment programs; understand the various community resources available for the probationer and parole. Prerequisite: CSC 3500. (5-0-0) 5

**CSC 4505 Corrections/Rights and Sanctions:** This course is an in-depth analysis of laws and court decisions that affect Correctional Staff and Prisoners. Exploration of the responsibilities of Correctional Officers, Correctional Supervisors, Correctional Jails, and Prisoners. Special emphasis will be placed on laws and recent Supreme Court decisions affecting treatment of inmates and various agency responsibilities. Prerequisite: CSC 3500. (5-0-0) 5

**CSC 4514 Corrections/Community Based Programs:** Upon completion of this course, students should be able to: develop a concept (at least one page) of integration and acceptance of community programs within corrections/community based programs; develop methods of identifying and coordinating community resources; develop methods of identifying and coordinating community responsibilities; develop and coordinate inmate involvement in community programs; conduct in-depth study of alternatives to incarceration. Prerequisite: CSC 3500. (5-0-0) 5

## Dance

**DAN 1183 Introduction to Modern Dance:** Upon completion of this course, students should have acquired a knowledge of basic terminology, theory and appreciation of modern dance, as well as certain proficient execution of basic body movements as they relate to modern dance.\* (0-3) 1

**DAN 1184 Modern Dance I:** Upon completion of this course, students should have acquired a sound understanding of the elements of dance with further emphasis on techniques, requiring a higher degree of skill. Prerequisite: DAN 1183.\* (0-3) 1

**DAN 1185 Modern Dance II:** Upon completion of this course, students should have acquired further mastery of modern dance technique, requiring a higher degree of skill. Prerequisite: DAN 1184.\* (0-3) 1

**DAN 1186 Modern Dance III:** Upon completion of this course, students should have acquired technical mastery of modern dance skills at the elementary level and will have begun exploration into different qualities of movement and different spatial relationships utilized in dance. Prerequisite: DAN 1185.\* (0-3) 1

**DAN 1193 Introduction to Ballet:** Upon completion of this course, students should have acquired a fundamental movement vocabulary as employed in ballet technique, theory and appreciation of ballet, as well as certain proficient execution of basic ballet steps.\* (0-3) 1

**DAN 1194 Ballet I:** Upon completion of this course, students should have acquired a firm understanding of body placement with further emphasis on technique, requiring a higher degree of skill and be able to perform simple practice exercises at the barre and in center floor. Prerequisite: DAN 1193.\* (0-3) 1

**DAN 1195 Ballet II:** Upon completion of this course, students should have acquired further mastery of skills in ballet techniques as well as simple movement combinations in center floor. Prerequisite: DAN 1194.\* (0-3) 1

**DAN 1196 Ballet III:** Upon completion of this course, students should have acquired mastery of ballet techniques at the elementary level and have a working knowledge of basic performing skills. Prerequisite: DAN 1195.\* (0-3) 1

**DAN 1197 Ballet Pointe Work:** Upon completion of this course, students should have acquired a knowledge of and a

certain proficient execution of beginning pointe work, foot and leg strengthening exercises, and correct fitting and care of pointe shoes. Prerequisite: DAN 1195 and permission of instructor. Corequisite: To be taken with an advanced technique class. See the department head for a current list of these classes.\* (0-3) 1

**DAN 1280 Dance for Musical Theatre:** Upon completion of this course, students should be able to demonstrate alignment fundamentals and differences in styles basic to jazz, ballet, tap, and folk dance through classroom performance. (0-4) 2

**DAN 1290 Dance Sources:** Upon completion of this course, students should be able to: demonstrate in writing an understanding of the geographical, historical and social background of specific countries; demonstrate through performance the types and styles of dances characteristic of these countries. (1-2) 2

**DAN 2184 Advanced Modern Dance I:** Upon completion of this course, students should: have made significant progress in technique; have acquired an understanding of kinesthetics (body energy). Prerequisite: DAN 1186.\* (0-3) 1

**DAN 2185 Advanced Modern Dance II:** Upon completion of this course, students should have acquired further mastery of modern dance skills and an understanding of musical structure and how it relates to phrasing in dance. Prerequisite: DAN 2184.\* (0-3) 1

**DAN 2186 Advanced Modern Dance III:** Upon completion of this course, students should: have acquired technical mastery of modern dance skills at an intermediate level; have a firm working knowledge of the elements of dance; have been introduced to different dance selections representative of the modern dance repertoire. Prerequisite: DAN 2185.\* (0-3) 1

**DAN 2194 Advanced Ballet I:** Upon completion of this course, students should: have made significant progress in technique; have achieved a performing proficiency of set patterns. Prerequisite: DAN 1196.\* (0-3) 1

**DAN 2195 Advanced Ballet II:** Upon completion of this course, students should have acquired further mastery of ballet technique and the application of variables affecting performance. Prerequisite: DAN 2194.\* (0-3) 1

**DAN 2196 Advanced Ballet III:** Upon completion of this course, students should have acquired mastery of ballet technique at an intermediate level as well as the ability to execute and perform complicated movement variations in extended sequences (more than one phrase). Prerequisite: DAN 2195.\* (0-3) 1

**DAN 2284 Choreography I—Improvisation:** Upon completion of this course, students should be able to complete exercises utilizing spontaneous movement which creatively apply elementary principles of composition. Corequisite: Must be enrolled in a Modern Dance technique class; see the department head for a list of these classes. (0-4) 2

**DAN 2285 Choreography II—Fundamentals of Composition:** Upon completion of this course, students should be able to demonstrate the elements of time and space as they relate to the fundamentals of dance composition. Corequisite: Must be enrolled in a Modern Dance technique class; see the department head for a list of these classes. (0-4) 2

**DAN 1186 Choreography III—Dance Forms:** Upon completion of this course, students should be able to demonstrate the use of form within a dance and various techniques of manipulating a form. Corequisite: Must be enrolled in a Modern

*\*Does not meet humanities requirement.*



Dance technique class; see the department head for a list of these classes. (0-4) 2

**DAN 2384 Dance Seminar:** Upon completion of this course, students will demonstrate through video performance, a basic knowledge of all aspects of the creation of a new ballet. The new work will be costumed and rehearsed for performance the following quarter. Corequisite: To be taken in conjunction with one or more technique classes; see the department head for a list of these classes. (2-2) 3

**DAN 2388 Dance Production I:** Upon completion of this course, students will demonstrate through performance, a basic knowledge of both the artistic and technical aspects of dance production to include auditions, rehearsals, and performances before an audience. In addition to performing, students will have actively participated in lighting design and operation, costume design and construction, publicity, and operation of box office activities. Corequisite: To be taken in conjunction with technique classes; see the department head for a list of these classes. (0-12) 3

## Dental Assisting

**DEA 5204 Dental Assistant Seminar:** A study of personal responsibilities as a practitioner including employee-employer relations, opportunities for continued development as a person and as a member of the dental health team. Prepare for job interviews and evaluation of clinical and private practice experience. Prerequisite: Fourth Quarter standing in Dental Assisting Curriculum. Corequisites: DEA 5745 and DEA 5346. (2-0-0) 2

**DEA 5243 Dental Office Practice I:** An introduction to practice in the dental clinic as a chairside and coordinating assistant. Upon completion of this course, students should be able to: perform at first level of proficiency at chairside with dentist and patient in general dentistry procedures offered at the school clinic; demonstrate the ability to apply classroom theory in the dental clinic in the areas of operator preparation, radiology, instrument management, sterilization, laboratory procedures and maintenance as coordinating assistant. Prerequisite: All First Quarter DEA courses. Corequisites: DEA 5524 and DEA 5514. (0-0-6) 2

**DEA 5300 Anatomy and Physiology:** Upon completion of this course, students should be able to: recognize, recall facts and specifics regarding general anatomy of the body and basic concepts of the normal functions of body systems; utilize knowledge and understanding of the basic structure surrounding the teeth; designate formation of primary and permanent dentition, basic anatomy of individual teeth and the application of these to the carving of restorative patterns. Co-requisites: DEA 5304 and DEA 5700. (3-0-0) 3

**DEA 5302 Introduction to Dental Assisting:** Upon completion of this course, students should: know purpose, history and progress of dentistry; understand and begin to abide by laws and ethics governing the dental profession; identify members of dental health team, their education, training, function and respective professional associations; be able to pronounce, spell correctly and define certain dental terms; be able to operate equipment in the school dental clinic; perform at first level of proficiency in receiving, preparing for operation and dismissing patients properly. Corequisite: DEA 5700. (2-0-3) 3

**DEA 5304 Preclinical Science I:** Upon completion of this course, students should be able to: demonstrate how bacteriology and dental health are related; designate techniques for

successful coping with the bacteriological problems which arise in the dental office; use knowledge of diet and nutrition as applied to dentistry. Corequisites: DEA 5302 and DEA 5300. (3-0-0) 3

**DEA 5305 Preclinical Science II:** Upon completion of this course, students should be able to: recognize and explain fundamental concepts of the more common diseases and disease processes in the oral cavity; state dosage, methods of administration and storage of common drugs and medicaments used in the dental office; perform dental first aid and emergency care for the patient in the dental office. Prerequisites: DEA 5300 and DEA 5304. (3-0-0) 3

**DEA 5344 Dental Office Practice II:** Continuation of DEA 5243 with same objectives for the student in chairside dental assisting at the second level of proficiency and third level of proficiency as clinic coordinator. Prerequisite: Third Quarter standing in Dental Assisting Program. Corequisite: DEA 5525. (0-0-9) 3

**DEA 5346 Dental Office Practice IV:** This course is a continuation of DEA 5525 with the student being assigned to off-campus private practice dental specialty offices and hospital dental clinic. Prerequisite: Fourth Quarter standing in the Dental Assisting Program. Corequisites: DEA 5745 and DEA 5204. (0-0-9) 3

**DEA 5390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required. (3-0-0) 3

**DEA 5514 Dental Roentgenology:** Upon completion of this course, students should: know the rationale and utilize methods for protecting the patient and operator from ionizing radiation and the principles involved in the production of x-rays; correctly identify parts of the dental x-ray unit and discuss the function of these parts; be able to prepare a diagnostically acceptable series of dental x-rays using a variety of intraoral techniques; identify correctly and be familiar with extraoral techniques for: Panorex, cephalometric (head plate), lateral jaw, impacted third molars; be able to identify various processing equipment; process films correctly using darkroom facilities; identify correctly the anatomical landmarks which may be seen on individual films from a full series of radiographs; select appropriate film mounts and correctly mount a full series of radiographs; recognize errors in film placement, exposure and processing, and be able to correct them. Prerequisites: DEA 5300, DEA 5302 and DEA 5304. Corequisites: DEA 5524 and DEA 5243. (2-4-3) 5

**DEA 5524 Clinical Procedures I:** Upon completion of this course, students should be able to: identify and effectively handle various types of dental equipment and instruments in general dentistry; demonstrate first level of proficiency in oral evacuation, passing and receiving instruments from prepared tray and preparation and delivery of dental materials needed for given operation in general dentistry; perform at second level of proficiency in patient preparation and dismissal including post-operative instructions. Prerequisite: All first quarter DEA courses. (2-6-0) 5

**DEA 5525 Clinical Procedures II:** Continuation of DEA 5524 dealing with the eight specialties of dentistry in order that students may adapt to work situations in these areas. Upon completion of this course, students should: be able to identify



and effectively handle various types of dental equipment and instruments in the dental specialties; have demonstrated the ability to assist in limited pedo, perio, endo, and oral surgery procedures in the school clinic. Prerequisite: third quarter standing in the Dental Assisting Program. Corequisite: DEA 5344.

(4-0-3) 5

**DEA 5534 Dental Office Management:** Students in this course will: be exposed to the principles and procedures related to managing a dental office inventory and supply; keep financial and clinical records; utilize cavity classification and nomenclature effectively; demonstrate effective telephone technique; maintain appointment book control. Prerequisite: third quarter standing in the Dental Assisting Program.

(4-0-3) 5

**DEA 5700 Dental Materials:** Upon completion of this course, students should be able to demonstrate a knowledge of the theory of intra and extra oral materials on written examination. They should also demonstrate a sufficient level of skill in the laboratory and clinical application of those more routinely used materials. Through the integration of lecture and laboratory experience students will be able to select and manipulate materials properly for a given procedure. Corequisites: DEA 5300 and DEA 5302.

(3-8-0) 7

**DEA 5745 Dental Office Practice III:** Continuation of DEA 5344 with same objectives for students to be performed at third level of proficiency in chairside assisting in all dental procedures at school clinic including assignments to encompass experience in office management and dental office laboratory procedures. Prerequisite: fourth quarter standing in Dental Assisting Program. Corequisites: DEA 5204 and DEA 5346.

(0-0-21) 7

## Dental Hygiene

**DEN 3300 Introduction to Dental Anatomy:** A dental anatomy course that covers basic dental anatomy as it pertains to the permanent dentition. Students will become familiar with basic tooth morphology, arrangement of the teeth in the mouth, tooth names, structures, and specific distinguishing characteristics of each tooth. Effective methods of studying dental anatomy and its many facets are emphasized. DEN 3300 is offered cooperatively by the Dental Hygiene department and the Advancement Studies department. The course is usually offered Winter and Spring quarters. Prerequisite or corequisite: LLB 9200 Classroom Success.

(3-0) 3

**DEN 3202 Head and Neck Anatomy:** Students will make a detailed study of the structures of the head and neck regions. Emphasis will be placed on the musculature, circulatory and lymphatic systems, bones, nerve supply, and landmarks of the skull. Attention will be given to the correct areas to administer local anesthetic to effect specific oral structures. Prerequisite: DEN 3401.

(2-0-2) 2

**DEN 3203 Office Emergencies:** Upon completion of this course, students should be familiar with the principles and procedures for first aid, including cardiopulmonary resuscitation. Emphasis is placed on the means and methods of preventing dental office emergencies as well as on the administration of life-saving treatments. Students will become certified in Cardiopulmonary Resuscitation. Prerequisite: BIO 1505.

(2-0-2) 2

**DEN 3223 Dental Health Education:** Upon completion of this course, students will be able to implement individual and group plaque control programs and demonstrate educational methods and concepts. Further, students will develop and present audio-visual materials, and stimulate individual or group behavior change via good communication. They will counsel

individuals and groups on preventive dental health measures involving nutrition, oral physiotherapy, fluorides, accident prevention and periodic visits to the dentist. Students will also plan and develop a unit plan for group dental health education.

(1-2-0) 2

**DEN 3300 Introduction to Dental Anatomy:** A dental anatomy course that covers basic dental anatomy as it pertains to the permanent dentition. Students will become familiar with basic tooth morphology, arrangement of the teeth in the mouth, tooth names, structures, and specific distinguishing characteristics of each tooth. Effective methods of studying dental anatomy and its many facets are emphasized. DEN 3300 is offered cooperatively by the Dental Hygiene department and the Advancement Studies department. The course is usually offered Winter and Spring quarters. Prerequisite or corequisite: LLB 9200 Classroom Success.

(8-0) 3

**DEN 3401 Dental Anatomy:** Upon completion of DEN 3401, students will be able to recall specific anatomical structures of the permanent and deciduous dentition, as well as identify extracted samples of each tooth. They will also demonstrate familiarity with dental terminology, gross oral anatomy and classification of occlusion. Prerequisite: Acceptance into the dental hygiene program.

(3-2-0) 4

**DEN 3402 Embryology and Oral Histology:** Students will be able to describe the embryological development of the head and neck with specific emphasis placed upon oral structures such as teeth, glands, tongue, etc. Recognition of oral defects including dental defects due to irregular development and their clinical significance will be evaluated. Students will gain microscopic and histologic knowledge of dental and oral structures, and will be encouraged to relate the knowledge gained from this subject to the clinical patient. Prerequisite: DEN 3401 and BIO 1504.

(3-2-0) 4

**DEN 3411 Preclinical Dental Hygiene I:** Upon completion of this course, students will have developed a personal philosophy of patient-centered care. They will gain knowledge and experience in the assessment phase of dental hygiene care, including aseptic technique, equipment care and maintenance, obtaining a medical history, performing an extra-oral and intra-oral examination, charting of oral conditions and recording periodontal findings. Prerequisite: Acceptance into the Dental Hygiene program.

(2-4-0) 4

**DEN 3503 Dental Radiology:** Students will know the theory and fundamentals involved in the production of x-rays. They will be held responsible for knowing the safety precautions to be utilized and the legal implications involved in radiologic exposure. Successful students will be adept in taking radiographs first on manikins, next on each other, and finally on clinical patients. Students will recognize and distinguish between good and bad radiographic techniques. Prerequisite: DEN 3401.

(3-4-0) 5

**DEN 3512 Preclinical Dental Hygiene II:** Through practice on manikins, each other, and selected patients, students will demonstrate the ability to record, plan and execute a dental prophylaxis maintaining aseptic conditions, without traumatizing hard and soft tissues. Familiarity with the instruments and their use is required. Prerequisite: DEN 3411 and DEN 3401.

(2-6-0) 5

**DEN 3513 Dental Hygiene I:** Students will accomplish a complete dental prophylaxis on a number of selected patients. Treatment plans for special patients will be considered. Increasing skill in charting and periodontal evaluation will be developed. Major consideration will be given to the removal of supragingival deposits and the developing of skill in detection

and removal of subgingival deposits on Class III and IIIA patients. Prerequisite: DEN 3512. (2-0-9) 5

**DEN 4206 Chairside Assisting:** Students will experience chairside assisting skills expected of a trained auxiliary. They will be competent in four-handed dentistry, rubber dam placement, matrix band placement, and placement of temporary restorations, and will also place, condense, and carve an amalgam restoration on a manikin tooth. Students will also place pit and fissure sealants on extracted teeth. Prerequisite: DEN 4305. (1-2-0) 2

**DEN 4207 Community Dental Health II:** Students will study resources available in the community to assist individuals and groups in meeting dental needs. They will identify a target group and spend ten weeks completing a needs assessment, developing a program plan, implementing the plan and evaluating the results. They will also present the results along with statistics and a visual display as a final report to the class. Prerequisite: DEN 4406. (1-0-3) 2

**DEN 4226 Pharmacology:** Students will demonstrate a knowledge of pharmacological nomenclature and terms, sources of drugs, fundamental types of pharmacologic action, patient reaction to drugs and treatment of adverse reactions. Types and classes of drugs will be enumerated. Students will write a general outline for a prescription and indicate a knowledge of the laws dealing with drugs. Prerequisite: CHM 1503. (2-0-0) 2

**DEN 4305 Periodontology:** Students will discuss principles of periodontics. They will describe, compare and contrast techniques involved in periodontal treatment and maintenance therapy. They will be able to discuss each classification of periodontal disease according to definition, clinical characteristics, radiographic changes and case management. Prerequisite: DEN 3402. (3-0-0) 3

**DEN 4306 Pathology:** Students will gain introductory knowledge of general and oral pathology with emphasis on recognition of disease conditions that the dental hygienist may encounter. They will be able to recognize common abnormalities, describe appearances of suspicious lesions and conditions, and recognize frequently encountered diseased and pathologic conditions. Prerequisite: BIO 1504, BIO 1505 and DEN 3402. (3-0-0) 3

**DEN 4406 Community Dental Health I:** Upon completion of this course, students will relate the role of the dental professional in the dental health field. They will describe the prevalence and methods of prevention of dental disease. Further, they will explore principles and delivery of dental care, identify principles of program planning, implementation and evaluation. Prerequisite: DEN 3223. (3-2-0) 4

**DEN 4407 Dental Hygiene Practice—Issues and Trends, and Office Management:** As a result of this course, students will become aware of current issues and trends in dental hygiene practice. Students will explore roles, values, ethics and responsibilities as health care providers. They will visit dental offices and observe various employment settings and share experiences and observations with classmates. (3-0-3) 4

**DEN 4505 Dental Materials:** A course designed to introduce the dental hygiene student to fundamental techniques and properties involved in manipulating materials used in the dental office. Students will gain clinical proficiency through actual application of laboratory procedures. Prerequisite: CHM 1503. (3-4-0) 5

**DEN 4616 Dental Hygiene III:** The sixth quarter dental hygiene student will gain proficiency in performing a complete

oral prophylaxis on all patient classifications. Major emphasis is placed on increasing a student's subgingival deposit removal skills. In addition, continued emphasis will be given to meeting the individual needs of the patient, along with clinical application of basic chairside assisting skills. Prerequisite: DEN 4715. (1-0-15) 6

**DEN 4617 Dental Hygiene IV:** Students will develop speed and efficiency in accomplishing a dental prophylaxis to prepare for entrance into the work market. Major emphasis will be placed upon the treatment of an increased number of patients during clinic sessions without sacrificing quality of care. Demonstration of exit level competencies for all practice tasks is required. Information will be gained concerning dental specialty practices. Self evaluations are utilized for determination of employment potential. Prerequisite: DEN 4616. (1-0-15) 6

**DEN 4715 Dental Hygiene II:** The dental hygiene student will gain proficiency in performing a complete oral prophylaxis on all classifications of patients, which will include plaque control instruction and detection and removal of all deposits within the capabilities of the fifth quarter dental hygiene student. Major consideration will be given to the refining of calculus detection skills. Prerequisite: DEN 3513 and DEN 3223. (2-0-15) 7

## Diesel Mechanics (see: DSL)

## Mechanical Drafting

**DFT 3300 Advertising Drafting:** Upon completion of this course, students should be able to: use drafting equipment to lay out simple geometric construction; letter words and numbers with standard lettering; lay out a typical title page; draw elementary orthographic drawings; produce simple ink drawings. (2-4) 3

**DFT 3314 Computer Assisted Drafting (CAD)—Mechanical:** Upon completion of this course, students should be able to: demonstrate the understanding of the graphic language of CAD; draw electronically elements of drawings such as lines, circles, arcs, curves, etc.; execute simple orthographic drawings electronically; dimension simple drawings. Prerequisites: DTF 3404 and DFT 3405. (2-3) 5

**DFT 3400 Electrical-Electronics Drafting:** Upon completion of this course, students should be able to: use drafting equipment to lay out simple geometric construction; letter words and numbers; draw and dimension elementary orthographic drawings; prepare from a rough circuit sketch the following simple electrical and electronic drawings: electrical schematic, wiring diagram, electronic schematic, printed circuit layout, component layout for printed circuit, ladder diagram. (2-6) 4

**DFT 3404 Mechanical Drafting I:** Upon completion of this course, students should be able to: use drafting equipment and instruments; letter words and numbers in Gothic style; draw orthographic and pictorial freehand sketches; lay out geometric constructions; execute orthographic drawings by use of instruments; dimension drawings and apply notes to drawings; reproduce, file and store drawings; execute simple "working" drawings. (2-6) 4

**DFT 3405 Mechanical Drafting II:** Upon completion of this course, students should be able to: apply orthographic projection principles to more complex drafting problems, including those with various kinds of holes; read and draw the



conventions of line elimination and revolving out of position; read, draw and dimension the various kinds of sectional views; and read, draw and dimension auxiliary views; read, draw and dimension pictorial views. Prerequisite: DFT 3404. (2-6) 8

**DFT 3406 Descriptive Geometry:** Upon completion of this course, students should be able to: analyze and solve graphically space problems which involve points, lines and planes; verify solutions to problems analytically when appropriate; relate these problems in engineering design; visualize the field problem shown on paper. Prerequisite: DFT 3405. (2-6) 4

**DFT 3507 Mechanical Drafting III:** Upon completion of this course, students should be able to: visualize, draw and dimension machine element details such as: threads, fasteners and springs, gears and gearing, cams and cam followers, and other common machine elements; form mental images of three-dimensional objects from standard blueprints and make clay models from them; produce basic weldment drawings. Prerequisite: DFT 3405. (2-9) 5

**DFT 3508 Mechanical Drafting IV:** Upon completion of this course, students should be able to: draw and dimension outline assemblies, working assemblies and sub-assemblies; produce simple piping drawings. Prerequisite: DFT 3507. (2-9) 5

**DFT 4300 Mechanical Blueprint Reading:** Upon completion of this course, students should be able to: visualize a three-dimensional object; relate the shape and size correctly and accurately to a pictured object; read and understand drawing conventions, symbols and notations; interpret the proper operations and shop procedures needed to produce objects shown on simple prints. (3-0) 3

**DFT 4-94 Independent Study:** This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 credits)

## Drug Administration—Nursing

**DRG 9502 Basic Calculation for Drug Administration:** A mathematics and systems preparation course for students who will enter *ANY* of the health curricula. Mathematics framework, metric system, apothecaries system, ratio and proportion, temperature conversions, household system, tablet dosages, solutions, and insulin dosages are the units available for study. Prerequisite: Completion of MAT 9500 or consent of the instructor. LLB 9200, Classroom Success, is highly recommended as a prerequisite or corequisite. Tuition is free. (2-6) 5

## Diesel Mechanics

**DSL 4400 Automotive Diesel Engines:** Upon completion of this course, students should have: demonstrated an understanding of the operation and construction of diesel engines used in current production automobiles and light trucks; developed competencies in the service tasks required in disassembly, inspection and reassembly of diesel engines and related components; developed competencies in the tasks required for diagnosis and service of diesel engine systems. (2-6) 4

**DSL 5300 Diesel Fundamentals:** Upon completion of this

course, students should be able to: recognize the advantages of supercharging and aftercooling as it affects basic engine design and performance; recognize the advantages of direct and indirect fuel injection; demonstrate a basic knowledge of four types of fuel injection metering systems; recognize the advantages of mechanical and hydraulic, limiting speed and variable speed engine governors; demonstrate the use of basic measuring instruments to determine engine component serviceability; demonstrate proper use of a nozzle tester; perform basic operations on and maintenance of a pump calibration stand. (2-3) 3

**DSL 5304 Hydraulics and Pneumatics:** Upon completion of this course, students should be able to: identify basic hydraulic components from a diagram drawn with standard hydraulic symbols; demonstrate a knowledge of vane, gear and piston pumps and motors; demonstrate a knowledge of pressure, flow and directional control valves; compute the volume and speed of cylinders; test the performance of a gear type fuel supply pump; demonstrate a knowledge of hydraulic terms; demonstrate a knowledge of tubing and fittings, hose and couplings; demonstrate a knowledge of air compressors and air governors; identify basic components of a compressed air system. (2-2) 3

**DSL 5308 Air Brakes:** Upon completion of this course, students should be able to: demonstrate a knowledge of the operation of various components of the air brake system; install repair kits in system control valves; demonstrate knowledge of proper preventive maintenance procedures; repair wheel units including lining, drum, and brake chamber diaphragm replacement; repair cam and wedge type actuators; use test procedures to locate system problems. (2-2) 3

**DSL 5314 Caterpillar Diesels:** Upon completion of this course, students should be able to: disassemble a typical Caterpillar diesel engine; obtain engine specifications using Caterpillar service manuals; determine serviceability of engine components; write up a parts order using Caterpillar parts book; assemble a typical Caterpillar diesel engine to manufacturer's specifications; install and time injection pump to engine; make preliminary adjustments, crank and run engine. (1-6) 3

**DSL 5315 Cummins Diesels:** Upon completion of this course, students should be able to: disassemble a typical Cummins diesel engine; obtain engine specifications using Cummins service manual; determine serviceability of engine components; write up a parts order using a Cummins parts book; assemble a typical Cummins diesel engine to manufacturer's specifications; run overhead by the torque or dial indicator method; crank and run engine. (1-6) 3

**DSL 5316 Detroit 2-Stroke Cycle Engines:** Upon completion of this course, students should be able to: disassemble a typical Detroit diesel engine; obtain engine specifications using Detroit service manuals; determine serviceability of engine components; write up a parts order using Detroit parts book; assemble a typical Detroit diesel engine to manufacturer's specifications; make preliminary engine adjustments; crank and run engine; make final tune-up adjustments. (1-6) 3

**DSL 5317 Mack Diesels:** Upon completion of this course, students should be able to: disassemble a typical Mack diesel engine; obtain engine specifications using Mack service manuals; determine serviceability of engine components; write up a parts order using Mack parts books; assemble a typical Mack diesel engine to manufacturer's specifications; install and flow time fuel injection pump to engine; make preliminary tune-up; crank and run engine. (1-6) 3

**DSL 5318 Diesel Tune-Up and Troubleshooting:** Upon completion of this course, students should be able to: demon-



strate a knowledge of the effects each engine system has on other engine systems; make test gauge connections to check 4-stroke cycle and 2-stroke cycle engine systems; make complete tune-up on operational 4-stroke cycle diesel engines; make complete tune-up on operational 2-stroke cycle diesel engines; make proper connections to mount engine to dynamometer; make test run using dynamometer to check engine performance; use troubleshooting techniques to locate system problems on operational 2-stroke and 4-stroke cycle diesels.

(1-6) 3

**DSL 5319 Fuel Injection Systems I:** Upon completion of this course, students should be able to: test the components of a typical gasoline fuel injection system; test and service fuel injection nozzles; demonstrate a knowledge of the Detroit unit injector; install and time a set of Detroit injectors in a live engine; demonstrate a knowledge of the Cummins injector; install a set of Cummins injectors in a live engine. (2-3) 3

**DSL 5320 Fuel Injection Systems II:** Upon completion of this course, students should be able to: demonstrate a knowledge of the Cummins PT fuel system; test rail pressure, test and set high and low idle; demonstrate a knowledge of the Caterpillar fuel system; demonstrate knowledge of the American Bosch and Robert Bosch fuel systems; test fuel setting, and set high and low idle on American Bosch and Robert Bosch fuel systems.

(2-3) 3

**DSL 5400 Heavy Duty Transmission Repair:** Upon completion of this course, students should be able to: assemble a heavy duty 5-speed transmission; install a bearing and light overhaul kit in a multirange 10- or 13-speed twin-countershaft transmission; assemble to manufacturer's specifications a heavy duty automatic transmission; demonstrate an understanding of the operation of air valves and shift cylinders on multirange transmissions.

(2-6) 4

## Economics

**ECO 2304 Economics I (Macro):** Upon completion of this course, students should be able to: apply economic concepts to basic and current national problems; trace the development of economic philosophies as they relate to traditional, command, and market economics; evaluate the role of federal programs in the areas of GNP, monetary and fiscal policy, and business cycles; demonstrate ability to use primary sources in understanding economic problems. (3-0) 3

**ECO 2305 Economics II (Micro):** Upon completion of this course, students should be able to describe and apply the theory of our pricing system to the competitive firm as well as to those business organizations in imperfect competition. Prerequisite: ECO 2304. (3-0) 3

**ECO 2306 Economics III:** Upon completion of this course, students should be able to apply an economic approach to contemporary problems and issues in such areas as growing world population and rising consumption, how each of these relates to such items as world trade, ecology, comparative economic systems and current issues. Prerequisite: ECO 2304 and ECO 2305. (3-0) 3

**ECO 3300 Introduction to Economics:** Upon completion of this course, students should: have a working knowledge of the nature and methods of economics, demonstrate an understanding of macro and micro economics, explain the working of international trade and finance, and compare different

economic systems. (3-0) 3

**ECO 3301 American Economic History:** Upon completion of this course, students should be able to discuss the concepts which have contributed to the nation's economic productivity from Colonial times to the present, detailing those areas which have facilitated the nation's growth in transportation, trade and finance. (3-0) 3

**ECO 3302 Labor Economics:** Upon completion of this course, students should be able to trace the historical growth of labor unions and describe the theories of labor and the development of effective labor and wage policies. The discussion method will be used in studying current labor questions and the problems arising from the working environment. (3-0) 3

## English for Foreign Students

(see: ESL)

## Interior Design

**EDN 4200 Interior Decoration for the Home Owner:** Upon completion of this course, students should be able to plan a personal home interior emphasizing the following areas: convenience, comfort and beauty, furniture and furnishings arrangement. (1-2) 2

**EDN 4201 Color Schemes for Interior Design:** Students will work from home plans in solving everyday color problems. The emotional, thermal and optical effects of color arrangements for interiors will be studied. Students should be able to plan and develop a color scheme for an interior, working with existing colors or working out a completely new color scheme. (1-2) 2

**EDN 4202 Thesis:** Students will plan and develop a professional portfolio based on work done during the preceding five quarters. Students will be involved in redoing some work/maturing and where necessary develop new projects which will help them focus their portfolio on specific job interest. Prerequisite: EDN 4415. (0-4) 2

**EDN 4203 Period Furniture and Furnishings:** Students will study period styles in chronological order from Egyptian through American furniture and furnishings, and will learn to recognize the influence of these styles. Students should be able to identify the major period styles popular today. (2-0) 2

**EDN 4210 Antique Furniture and Furnishings:** Students will study antique furniture and furnishings and will explore their use in contemporary interiors. Students will be exposed to antiques from a consumer's point of view and will develop basic evaluating skills that can be used to determine a personal value of antiques in general. (2-0) 2

**EDN 4300 Survey of Interior Design:** Students will acquire a general understanding of the nature and scope of interior design as a profession, contrasting and comparing different specializations within the field of interior design. (3-0) 3

**EDN 4301 Practical Problems in Interior Design I:** Students will develop their personal interior design projects with emphasis on space planning, color and correct use of interior materials. Complete visual presentations with accurate costs will be produced. Prerequisite: EDN 4200. (2-2) 3

**EDN 4307 Survey of Materials:** Students will survey natural and man-made fibers and materials currently available and should be able to select the proper material for a specific application using the following criteria: overall quality, price, durability,

color, and material from which the product is constructed. Materials covered: rugs and carpets, furniture, ceramic tile, paint, wallpaper and wall coverings, hardware, textile products, glass and building materials. Prerequisite: EDN 4414. (1-4) 3

**EDN 4310 Design Sketching:** Upon completion of this course, students should be able to: use drawing skills for effective communication; produce presentation sketches, point of purchase sketches, and idea development sketches as associated with the design process; use a variety of media appropriately on different surfaces and use "blueprint" materials and equipment to reproduce their drawings. Prerequisite: ART 1405. (0-6) 3

**EDN 4400 Professional Practices and Procedures:** Students will study current business practices in the field of interior design. Upon completion of this course, they should be able to write and design an initial contract form, a letter of agreement, prepare a purchase order, figure wholesale discounts, and do simple job estimating. Prerequisite: EDN 4415. (2-4) 4

**EDN 4404 Interior Presentation:** Students will develop technical skill in applying elements that comprise the interior environment: fabric, furniture, rock, masonry, foliage, etc. They will make presentations of designs in simulated designer-clientele relationships and should be able to construct and present simple interior design projects in a professional manner, preparing fabric and material collages and room layouts in ink and color. Prerequisite: ARC 3434 and ART 1426. (2-4) 4

**EDN 4406 Contemporary Interiors:** Students will study current techniques in designing interiors for commercial and industrial buildings and will learn to recognize and anticipate changing needs. They should be able to analyze and make recommendations concerning interior design solutions befitting 20th century contract interiors. Prerequisite: EDN 4415 and ARC 3304. (2-4) 4

**EDN 4414 Applied Problems Studio I:** Students will explore fundamentals of interior design, space planning, convenience, function, and visual effects and will complete planned problems to achieve workable and practical solutions to current needs for the single dwelling. They will prepare graphic solutions in two and three dimensional form. Prerequisite: ARC 3303, ARC 3334 and ART 1426. (2-4) 4

**EDN 4415 Applied Problems Studio II:** Students will apply knowledge and skills from EDN 4414 to advanced solutions to special space problems, preparing presentations and complete specifications. Prerequisite: EDN 4414 and ARC 3304. (2-4) 4

**EDN 4416 Applied Problems Studio III:** Students will investigate, plan and execute interior designs for a cross-section of current interiors and should be able to solve actual complex interior design problems including accurate specifications and construction details. Prerequisite: EDN 4415 and ARC 3304. (2-4) 4

## Computer Science

**EDP 1404 Computer Concepts and FORTRAN Programming I:** Upon completion of this course, students should be able to: define selected terms pertaining to computer systems and programming; write programs in the FORTRAN language that: read and write numeric/alphanumeric, perform arithmetic calculations, use control logic, generate reports with headings and totals, perform operations with one-dimensional arrays; prepare data for testing a FORTRAN program. (3-2) 4

**EDP 1405 FORTRAN Programming II:** A continuation of EDP 1404. Upon completion of this course, students should be able to write FORTRAN programs for problem solutions requiring: two-dimensional arrays; functions and subroutines; input/output for tape and disk files; logical operations and output. Prerequisite: EDP 1404, and MAT 1504, MAT 1514 or MAT 3504, or departmental consent. (3-2) 4

**EDP 2306 Computer Programming I (Business):** Upon completion of this course, students should be able to: construct basic COBOL programs to solve sample business problems; verify the accuracy of program output; construct basic flowcharts; identify business problems which can be solved with a computer. (2-2) 3

**EDP 2307 Computer Programming II (Business):** A continuation of EDP 2306. Upon completion of this course, students should be able to: develop program logic and write COBOL programs for solving sample business programs; incorporate programming techniques and procedures for magnetic tape and disk processing. Prerequisite: EDP 2306. (2-2) 3

**EDP 2308 Computer Systems and Assembly Language I:** Upon completion of this course, students should be able to: translate from one numbering system to another and perform arithmetic in various numbering systems; describe computer storage representation and addresses for decimal and alphabetic fields; write simple programs using declare, arithmetic, data transfer, compare, branch, and I/O assembly language instructions; identify I/O device storage characteristics and file organization capabilities; trace the data flow through a computer system identifying hardware functions and characteristics encountered from input to output. Prerequisite: EDP 1404 or EDP 2306. (2-2) 3

**EDP 2309 Computer Systems and Assembly Language II:** A continuation of EDP 2308. Upon completion of this course, students should be able to: write basic programs using declare, arithmetic, data transfer, compare, branch, table storage and I/O assembly language instructions; trace the compilation and execution of a job through multi-programming computer system environment and name software programs involved; code JCL statements necessary to execute assembly language programs using sequential files and certain file utilities; define an operating system, listing its advantages. Prerequisite: EDP 2308. (2-2) 3

**EDP 2514 Statistical and Numerical Programming:** Upon completion of this course, students should be able to write a program to do: the inverse of a Matrix in solving a set of simultaneous equations; Newton's forward interpolation; numerical integration; simplex method; two-way analysis of variance; series expansion. Prerequisite: EDP 1405 and MAT 2504. (4-2) 5

**EDP 3300 Introduction to Computer Concepts:** Upon completion of this course, students should be able to: identify the basic steps in solving a data processing problem by tracing the flow of data through a computer system; list and define the functional units of a computer; identify the basic processes in programming; list the job characteristics of computer personnel; describe devices and basic procedures in file handling for batch processing systems; identify different programming languages and their usual applications; relate problem definition and project analysis, system design, system development and implementation from the systems analysis point of view; identify the characteristics of on-line systems, such as I/O function, data transmission, file access and response time; identify the



concepts of computers as related to multi-programming and multi-processing; identify various computer usages; state some of the impacts of computer technology on individuals and the community; define selected terms relating to hardware and software for mainframe computers and microcomputers. (3-0) 3

**EDP 3310 Microcomputer Operations:** This course concentrates on the knowledge and skills needed to operate a computer, not programming or maintenance. Upon completion of this course, students should be able to: operate keyboard (no speed training), cassette input/output, floppy disk and line printer; use operational commands; enter data and interpret output for selected business data processing applications. Microcomputers will be used for practice exercise. (2-2) 3

**EDP 3324 Advanced Microcomputer Operations:** This course teaches the skills needed to use advanced software packages on the computer. Upon completion, students should be able to: run software to create and use electronic worksheets; create and use data bases; use the computer as a word processing system. Prerequisite: EDP 3310 or department consent. (2-2) 3

**EDP 3405 Microcomputer Programming—BASIC:** Upon completion of this course, students should be able to: define selected terms pertaining to microcomputer systems and programming; list the hardware devices for a typical microcomputer system; write programs in the BASIC language that read/write/calculate, use control logic, generate reports with headings and summary totals, perform operations and arrays; prepare sample data to test a BASIC program, define and explain the purpose of a menu; write programs in an interactive environment under control of an editor. (3-2) 4

**EDP 3406 Microcomputer Programming—Advanced BASIC:** Upon completion of this course, students should be able to: write programs to create/access/update data files on cassettes and disk; use one- and two-dimensional array processing; use selected functions available in BASIC and write user defined functions and subroutines; use string functions; write programs for reports using designated print formats with headers, edited output and summary totals for screen and printer output. Prerequisite: EDP 3405. (3-2) 4

**EDP 3407 Programming Business Applications for Microcomputers:** Upon completion of this course, students should be able to: prepare input, output and file formats; design and write programs in BASIC for selected accounting/ business applications; code and/or explain techniques or routines used in computerizing a business application such as data editing, sorting, merging, multileveled control breaks, calculation of days between dates, and file processing; prepare and interpret documentation for selected accounting/business applications. Prerequisite: EDP 3405 and EDP 3406. (3-2) 4

**EDP 3440 Assembly Language:** Upon completion of this course, students should be able to: perform arithmetic operations in the hexadecimal and binary numbering systems; code selected assembly language statements; interrupt machine language instructions and read hexadecimal dumps; write assembly language programs using techniques ranging from reading of cards through address modification, loops, editing, and sorting of 1-level tables; use macro instructions and subprograms. Prerequisite: EDP 3515 or departmental consent. (3-2) 4

**EDP 3514 Programming Logic and COBOL I:** Upon completion of this course, students should be able to: analyze given problem definitions and develop solutions from a programming viewpoint at a fundamental level with the use of

hierarchy charts, I/O specifications, and write and execute structured COBOL programs for business problems involving data input, basic calculations, code checking, decision making, iterations, reports, headings, and summary totals; prepare test data and verify results of executing a COBOL program; correct syntax and logical errors in a COBOL program. (3-4) 5

**EDP 3515 Programming Logic and COBOL II:** Upon completion of this course, students should be able to: outline the logic through use of hierarchy charts, I/O specifications, and flowcharts to process multiple level control breaks, group indicated and group printed reports, advanced arithmetic calculations, advanced decision making techniques, disk/tape I/O, create/update sequential files on tape/disk, iterative processing, one-dimensional tables; write structured COBOL programs that will handle these same features; code, test and debug sample problems with these features; correct syntax and logic errors with the help of standard manuals. Prerequisite: EDP 3514. (3-4) 5

**EDP 3516 Programming Logic and COBOL III:** Upon completion of this course, students should be able to: outline the logic through use of hierarchy charts, I/O specifications, and flowcharts to process multi-dimensional tables, sorting of data, merging files, files containing multiple record formats, files containing variable length records, non-sequential files (create/update), reports using the REPORT WRITER feature, subprograms, maintenance and modification of existing programs; write structured COBOL programs that will handle these same problems; correct syntax and logic errors with the help of standard manuals. Prerequisite: EDP 3515. (3-4) 5

**EDP 4314 Systems and Procedures:** Upon completion of this course, students should be able to: summarize the state of the art in information systems design; prepare and explain a coding system for business forms; design a business form to user's specifications; prepare a project plan and status reports; prepare information oriented flowchart with an appropriate narrative; draw feasibility conclusions; prepare a multiple record layout form; prepare a computer print chart from a report specification. Prerequisite: ACC 1604 or BUS 1400 and EDP 3300, or departmental consent. (3-0) 3

**EDP 4390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. (3-0) 3

**EDP 4425 Computer Systems I:** This course uses one of the systems available for CPCC students—MVS/JES2, an OS type system. Upon completion of this course, students should be able to: use utility manuals to code the JCL and control statements for certain utilities; code DD statements for sequential files; code JCL for compilation and execution of COBOL and WATBOL programs; create PDS, store and execute load modules; list physical and storage characteristics of disk and tape; calculate storage requirements for a file on disk or tape; trace the job flow from input to output identifying software programs involved for a multiprogramming computer system for compilation and execution of programs; diagram the program and data flow in a multiprogramming computer including channels and interrupts; define an operating system and discuss IPL, SYSGEN and other selected terms; code parameters of a Job and Execute card; use catalogued files. Prerequisite: EDP 3514 or departmental consent. (3-2) 4



**EDP 4434 Introduction to Operations Research:** Upon completion of this course, students should be able to: trace history, development and use of O.R. techniques; perform manipulative skills necessary for solution of linear programming (simplex), transportation model, CPM, selected simulation and queuing; analyze problem definitions and apply appropriate model for solution; prepare input data and interpret output for certain O.R. models using a computer. Prerequisite: MAT 3505, MAT 2514 and EDP 1404 or departmental consent. (3-2) 4

**EDP 4435 Computer Systems II:** This course uses both the operating systems available to CPCC students—MVS/JES2, an OS type operating system, and DOS/VSE, a DOS type operating system. Upon completion of this course, students should be able to: store, modify and use source modules on PDS in COBOL and WATBOL; code DD statements for index sequential, VSAM, random files and define processing procedures and modes; create and store procedures in a procedure library; establish and use generation group files; use utility manuals for execution of selected utilities; state purpose of and list some typical access method programs; use message code listings to determine errors occurring in running sample labs; code the control language for a DOS operating system. Prerequisite: EDP 4425 or departmental consent. (3-2) 4

**EDP 4437 Computer Language Survey:** A study of one particular computer language or a study and comparison of various computer languages. The language(s) studied is based on current request. Upon completion of this course, students should be able to write basic programs in the language(s) studied. Prerequisite: departmental consent. (3-2) 4

**EDP 4444 RPG Programming:** Upon completion of this course, students should be able to: define various fields on the RPG specification forms; explain general logic of the execution cycle; code, debug and execute RPG programs using indicators, multiple files, matching records, total levels, report headings, group indication, array processing, and exception output instructions; correct compiling and logic errors. (3-2) 4

**EDP 4445 Advanced RPG Programming:** Upon completion of this course, students should be able to: code table look-up routines; update sequential, indexed sequential, and direct file organizations; code array processing routines; use packed decimal numeric representation; code subroutines and use structured programming techniques; code exception time output instructions; use files on both tape and disk. Prerequisite: EDP 4444 or departmental consent. (3-2) 4

**EDP 4515 Applied Business Systems and Data Bases:** Upon completion of this course, students should be able to: estimate hardware, software and personnel requirements for a specific business application; relate the various business statements (e.g., balance sheet, income, cost of goods sold) to the business data base; analyze business problems, suggesting computer related solutions and preparing a feasibility study (factors to include: systems analysis, programming and personnel requirements); relate the data base of a business to the three principal areas of Computer Information Systems (CICS): Data Processing (DP), Management Information Systems (MIS), and decision support systems; define the three principal data base structures (Hierarchical, Network, and Relational) and discuss their evolution; define the common database terminology; compare and contrast common data bases and database languages; utilize one or more common data bases on a micro-computer system; relate the Computer Information Systems approach and data bases to the data communication environ-

ment; define the two main network structures (star and ring); define telecommunication terminology necessary to understand data communication concepts. Prerequisite: EDP 4314 or departmental consent, ACC 1605 or departmental consent. (3-4) 5

**EDP 4516 CICS and Programming Aids:** Upon completion of this course, students should be able to: state the differences between Online and Batch programs; list the common characteristics of online applications; describe the qualities needed by a good telecommunications monitor; describe the data flow within the Customer Information Control System/Virtual Storage (CICS/VS) telecommunication monitor; define important tables and storage areas utilized by CICS/VS; code, compile and catalog physical and symbolic map descriptions (Screen formats) using the Basic Mapping Support (BMS) facility of CICS/VS; code and execute Command Level COBOL programs for: file record inquiry, file record creation, file record update, file record deletion, file browsing, link and transfer of control between independent programs; define the CICS/VS statements necessary to use temporary storage. Prerequisite: EDP 3516. (3-4) 5

**EDP 4517 Batch Data Processing Applications:** Upon completion of this course, students should be able to: identify in general the approach steps in design and programming of a batch business data processing application and use these steps in the design of a specific application; write programs to create and process files on tape and/or disk as required by the selected business application; write programs to include and/or state various programming requirements and techniques used in batch business application programming such as the logic for matching, merging, data editing, multi-level control breaks, table processing, and various report formats; and code the required JCL for programs and utilities as needed in implementing the application. Prerequisites: EDP 3516, EDP 4425 and EDP 4314. (3-4) 5

**EDP 4518 Real Time Data Processing Application:** Upon completion of this course, students should be able to: identify in general the approach steps in design and programming of a real time business data processing application and use these steps in the design of a specific application; work on a programming team in programming a complete application; make decisions regarding files, number and scope of programs, and others regarding a particular computerized application; write programs to implement a particular application with VSAM file processing; code the required JCL for programs and utilities as needed in implementing the application. Prerequisites: EDP 3516, EDP 4435 and EDP 4315. (3-4) 5

**EDP 5201 CRT Use in Business Applications:** The CRT (cathode ray tube) is becoming more prominent as the computer becomes accessible to all areas of business. The CRT Use in Business Applications course is designed to familiarize students with the general use of the CRT. Upon completion of this course, students should be able to: describe the properties of CRT use; define the general use of functional keys; obtain particular display screens upon request; use the CRT effectively for feeding and obtaining information to and from the computer. (2-0) 2

**EDP 5390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the

sponsor and department head is required. (3-0) 3

**EDP 5424 Programming I—Operators:** Upon completion of this course, students should be able to: write COBOL programs that will generate business reports with headings and simple arithmetic operations performed on input data; analyze listings of COBOL programs to determine such things as: file, record and field names, input/output record layouts, input/output devices; list the steps and describe JCL involved in compilation and execution of a COBOL program as handled under an operating system. Prerequisite: EDP 3300. (3-2) 4

**EDP 5425 Programming II—Operators:** Upon completion of this course, students should be able to: explain the general purpose of the RPG Specification forms; code, debug, execute RPG programs to perform basic calculations and generate reports involving control breaks, headings and form control. Prerequisite: EDP 3300. (3-2) 4

**EDP5524 General Data Processing Applications:** Upon completion of this course, students should be able to: create a program library and store machine language executable programs in the library; code the JCL necessary to execute programs stored in a library and code the JCL for files to be used by the program; draw operational flow charts; read a selected operator run sheet to determine devices, files backup and rerun procedures, type forms, form distribution, transaction/master file storage, and special control records for the jobs; prepare master file and transaction file records for a selected business data processing application; prepare a run schedule, run the programs and verify the results for a selected business data processing application; use return codes in controlling job step execution; define selected terms associated with business data processing applications. Prerequisite: EDP 5614 and EDP 5424. (4-2) 5

**EDP 5613 Computer Operations I:** Upon completion of this course, students should be able to: list and perform the computer operator's duties in the operation of a card reader/punch, magnetic tape, magnetic disk, and console control devices; describe the hardware components of a business computer system; describe the principles of teleprocessing using voice grade lines; convert binary, hexadecimal, and decimal from one base to the other; interpret and use standard operator run instructions; run selected utility programs. Students will receive "hands on" experience on a complete computer system. Corequisite: EDP 3300. (5-2) 6

**EDP 5614 Computer Operations II:** Upon completion of this course, students should be able to: identify the major components of DOS/VSE; identify the librarian used in DOS/VSE; understand how DOS/VSE implements the use of virtual storage; execute the procedures to IPL; list and use operator commands for communicating with the 370 computer system controlling the console and entering operator commands; understand and use the proper procedures for responding to errors related to system operation; identify the purpose and function of VSE/POWER; interpret displayed job status information; use POWER operator commands in the execution of programs. Students will receive "hands on" experience on a complete computer system. Prerequisite: EDP 5613. (5-2) 6

**EDP 5615 Computer Operations III:** Upon completion of this course, students should be able to: trace the job flow in a multitasking computer environment; list the purpose and types of JCL cards for OS; use manuals to code JCL and execute selected utility programs available on computer system used at CPCC; define the various features of an operating system;

define OS operator commands and interpret OS operator messages. Prerequisite: EDP 5614. (5-2) 6

**EDP 5616 Computer Operations IV:** Upon completion of this course students should be able to: format the data and job control language to process a selected data processing application; create and use run instructions necessary to process a selected data processing application; operate a system with a DOS/VSE operating system; define means and methods of computer room and data security; utilize necessary manuals to solve error and recovery procedures; present a written description of a menu system. Students will gain considerable "hands on" experience using a complete computer system in lab. Prerequisite: EDP 5615. (4-4) 6

**EDP 5901 Data Entry I:** Upon completion of this course, students should be able to: identify records; describe the process of record formatting; recognize data errors and correct them; utilize various source documents; punch program cards for keypunch machines; define selected terms related to data entry; be able to use a CRT at elementary level; obtain an acceptable level of keystrokes per hour. (4-15) 9

**EDP 5902 Data Entry II:** Upon completion of this course, students should be able to: operate a CRT at an advanced level; define the principles of program development of data entry applications; perform operational procedures for transferring data from one medium to another; define the principles of the batch/edit routine; obtain an acceptable level of keystrokes per hour. Prerequisite: EDP 5901 or consent of instructor. (4-15) 9

## Education

**EDU 2500 Introduction to Education:** Upon completion of this course, students should demonstrate a knowledge of the development and present status of education in American society with attention given to the objectives of democratic education and the role of the teacher in their implementation. (Does not satisfy Social Science requirement.) (5-0) 5

## Electrical Installation And Maintenance

**ELC 5300 Blueprint Reading—Building Trades:** Upon completion of this course, students should be able to: read and sketch multi-view drawings used in the building trades; interpret conventional lines and dimensions; read section views; understand specifications related to the building trades. (3-0) 3

**ELC 5301 Blueprint Reading—Electrical:** Upon completion of this course, students should be able to: interpret schematics and blueprints applicable to electrical installations; sketch schematics and electrical plans for residential and commercial installations using appropriate symbols and notes. (3-0) 3

**ELC 5305 Construction Trades Business Operations:** Upon completion of this course, students should be able to: describe problems encountered in a small business operation; describe basic business law; understand proper ordering and inventorying procedures; prepare budgets for various construction projects; determine business overhead. (3-0) 3

**ELC 5401 Basic Calculations for Electricians:** Upon completion of this course, students should be able to: apply the principles of addition, subtraction, multiplication and division to problems related to the electrician's trade; calculate ratio and



proportion; manipulate fractional and decimal numbers; use algebraic equations to solve problems encountered in the electrical field; understand trigonometric functions and their application to right angles; describe vectors and their use in alternating current applications. (4-0) 4

**ELC 5510 Industrial Electronics I:** Upon completion of this course, students should be able to: demonstrate an understanding of the fundamentals, operating characteristics and application of solid state electronic theory as it applies to circuit protective devices, relays, limit switches and sensing devices; demonstrate an understanding of electro-mechanical logic; disassemble, replace parts and reassemble electro-mechanical devices. Prerequisite: ELC 5901. (3-6) 5

**ELC 5520 Industrial Electronics II:** Upon completion of this course, students should be able to: demonstrate an understanding of industrial solid state electronic systems such as motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding controls and other systems commonly found in most industries; install and maintain the above systems; describe energy management control systems. Prerequisite: ELC 5510. (3-6) 5

**ELC 5802 Alternating Current and Direct Current Machines and Controls:** Upon completion of this course, students should be able to: describe the fundamental concepts in single and polyphase alternating current circuits; use electrical test instruments in circuit analysis; demonstrate an understanding of the basic concepts of AC/DC machines and simple system controls; describe, install and perform tests on controls such as thermostats, timers and sequencing switches; demonstrate an understanding of transformers and motor controls. (4-12) 8

**ELC 5803 Residential Wiring:** Upon completion of this course, students should be able to: read prints related to the installation of electrical wiring and components in residences; plan, lay out and install wiring and electrical components in residential applications; describe proper techniques used to protect electrical circuits; list the required wire sizes for typical applications; install conduit; state the National Electrical Code regulations for typical residential applications. (5-9) 8

**ELC 5901 Direct and Alternating Current:** Upon completion of this course, students should be able to: describe the structure of matter and electron theory; demonstrate a knowledge of the relationship between voltage, current and resistance in series, parallel and series-parallel circuits; demonstrate a working knowledge of Ohm's Law and Kirchoff's Law; describe the sources of direct current voltage potentials; understand the fundamental concepts of alternating current flow, reactance, impedance, phase angle, power and resonance; analyze electrical circuits using appropriate instruments and schematic diagrams. (5-12) 9

**ELC 5904 Commercial and Industrial Wiring:** Upon completion of this course, students should be able to: plan and lay out wiring systems in commercial and industrial complexes; install service and feeders using metallic and non-metallic conduit and wire; install panelboards, switchboards, bus duct systems and underfloor duct systems; install motors and auxiliary devices; perform maintenance in all systems; describe causes of electrical energy waste and methods to improve operating efficiency. (5-12) 9

## Computer/Electrical/ Electronics Engineering Technology

**ELN 3100 Electrical/Electronics Seminar:** Upon completion of this course, students will have: received an orientation to the College and the electrical/electronics programs, including the services and personnel available; explored available electrical/electronic course specialization and associated career path opportunities; explored the continuing education possibilities, including the bachelor of engineering technology (BET) programs; explored the benefits of membership in professional organizations, including the student section of IEEE; heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

**ELN 3104 Computer Technology Seminar:** Upon completion of this course, students will have: received an orientation to the College and the computer engineering technology program, including the services and personnel available; explored available computer engineering technology course specializations and associated career path opportunities; explored the continuing education possibilities, including the bachelor of engineering technology (BET) programs; explored the benefits of membership in professional organizations, including the student section of IEEE; heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

**ELN 3105 Introduction to Computer Engineering Technology:** Upon completion of this course, students should have: become familiar with computer systems in computer engineering technology laboratory and procedures, capabilities and utilization of these systems; become familiar with computer terminology; been introduced to various aspects of problem analysis such as: process of research, data gathering and implementation, alternative solutions, and decision phases related to computer engineering technology; become acquainted with the history of computing. (1-0) 1

**ELN 3404 Electronics I—Active Devices:** Upon completion of this course, students should be able to: demonstrate a working knowledge of semiconductor diodes and their application in basic rectifier circuits; perform graphical analysis of the JFET and bipolar transistor amp; design proper DC bias for class A transistor amplifier; analyze the performance of small signal transistor amplifier circuits using simplified approximate hybrid parametry. Prerequisite: ELN 3515. (3-3) 4

**ELN 3405 Electronics II—Analog Circuits:** Upon completion of this course, students should be able to: recognize, reproduce, specify component characteristics for, assemble, and test the following electronic circuits: rectifiers, passive filters, controlled power switching circuits, push-pull and other large signal amplifiers, oscillators, and power supply regulators; design proper DC bias for JFET and MOSFET amplifiers. Prerequisite: ELN 3404. (3-3) 4

**ELN 3406 Electronics III—Op-Amps:** Upon completion of this course, students should be able to: utilize operational amplifier specification data for the purpose of: selecting and/or determining necessary discrete components and power required for common integrated circuit operational amplifiers applications; design circuit applications for oscillators, comparators, inverting and noninverting amplifiers; demonstrate experi-



mentally circuit design and device specifications in laboratory. Prerequisite: ELN 3405. (3-3) 4

**ELN 3414 Industrial Instrumentation:** Upon completion of this course, students should be able to: specify an appropriate input transducer for interface in an electronic control system for measurement of temperature, pressure, light, et al.; specify appropriate output control element requirements and/or device for recording, display and process control; integrate input and output transducers with electronic signal conditioners (e.g. op-amps) and control systems; interface digital and analog devices with industrial control equipment. Prerequisite: ELN 3406. (3-3) 4

**ELN 3514 Basic Electricity (DC):** Upon completion of this course, students should be able to: calculate voltage, current, resistance, power and energy of series, parallel and combinational series-parallel resistive circuits with DC power supplies; calculate equivalent resistance; measure these circuit parameters and verify the results of calculations; use laboratory test equipment to measure circuit parameters properly; interpret passive circuit diagrams to produce functioning circuits; calculate voltage, current, charge and energy of series, parallel and combinational series-parallel resistive-capacitive-inductive steady state circuits with DC power supplies; calculate equivalent capacitance and inductance; predict the instantaneous values of voltage and current in R-C and R-L circuits; calculate the time constants and settling time for R-C and R-L circuits. Corequisite: MAT 3507. (3-6) 5

**ELN 3515 Basic Electricity (AC):** Upon completion of this course, students should be able to: select values of R, C and L required to produce any desired voltage, current and impedance in AC circuits; analyze R-L-C series parallel and combination circuits and draw phasor diagrams representing voltage and current, impedance diagrams representing resistance and reactance; calculate L-C values required in resonant circuits; analyze resonant circuits; correct power factor when required and calculate true power, apparent power and reactive power in AC circuits; select proper transformers in low frequency circuits for impedance matching, voltage step-up or step-down and test for proper operation in these circuits. Prerequisites: ELN 3514 and MAT 3507. (3-6) 5

**ELN 4100 Senior Seminar:** Upon completion of this course, students should be able to: identify and define the various career roles available to Computer and Electrical/Electronics Engineering Technicians; write an acceptable resume; demonstrate satisfactory skills required in the job hunting process. Prerequisite: ELN 4326 or ELN 4327. (1-0) 1

**ELN 4304 Radiotelephone Operation:** Upon completion of this course, students should be able to pass the Federal Communication Commission examination for the general radiotelephone operators license. Prerequisite: ELN 4414. (3-0) 3

**ELN 4307 System Correction Procedures:** Upon completion of this course, students should be able to: diagnose defective Electrical/Electronics circuits and systems given appropriate diagrams and operational specifications; locate defective components with the effective application of a VOM, EVM, A-C ammeter, wattmeter, oscilloscope, audio generator, R.R. generator or frequency meter; select appropriate replacement component as required to restore circuit or system to acceptable performance; perform alignment and/or adjustments as required by equipment performance specifications. Prerequisite: ELN 3406. (1-6) 3

**ELN 4310 Introduction to Microprocessors:** An individualized self-paced course designed for students to be able to:

identify a microprocessor based system and its associated integrated circuitry; interpret machine instructions, control signals and data flow through a typical system; assemble interface circuits to microcomputer system; write program in both machine and assembly language for a M6800 system; execute and debug programs using individual microcomputer systems. Prerequisite: ELN 4427. (0-9) 3

**ELN 4326 Electrical-Electronics Project:** Upon completion of this course, students should be able to: lay out and produce a printed circuit board; install components; test circuit; evaluate performance and provide a detailed technical report on the project. Prerequisites: ELN 3406, DFT 3400 and COM 3306. (1-6) 3

**ELN 4327 Microcomputer Applications Project:** Students will develop necessary software to enable use of the microcomputer as a problem-solving tool for a significant Electrical or Electronics Engineering Technology application. The software developed must have practical application for the practicing engineering technician. Each student will select a project from a relevant area after consultation with the course instructor. Prerequisites: EDP 3405 and ELN 4547. (1-6) 3

**ELN 4345 Advanced E/E Topics:** Students will solve a wide variety of problems illustrating advanced applications of Electrical/Electronics principles. Topics may include: microprocessor applications and design (6809, 6800), power electronics and control, programmable logic controllers (PLC), medical electronics and advanced communications. Specific topic(s) may vary from quarter to quarter. Prerequisite: ELN 3406 and consent of program director. (1-6) 3

**ELN 4400 Practical Electricity:** Students will learn practical application of basic DC and AC electrical principles of voltage, current and power for resistive, capacitive and inductive circuits. (3-3) 4

**ELN 4401 Planning Electrical Installations:** Upon completion of this course, students should be able to: understand and appreciate the value of the Underwriters Laboratories and the National Electrical Code; use the N.E.C. to determine safe standards for planning electrical installation; calculate heat loss and gain for electrical heating and cooling; plan and calculate lighting specifications for commercial installations. Prerequisite: ELN 3515. (3-3) 4

**ELN 4404 Medical Electronics:** Upon completion of this course, students should be able to: predict equipment response when given appropriate bioelectric equivalent signal; verify proper connection of patient/transducer interface to medical equipment; measure with conventional test device the leakage currents associated with the safety of medical equipment; diagram the human cardiovascular circulation system; select the appropriate electrode or transducer as required to obtain a given biomedical parameter. Prerequisite: ELN 3406. (3-3) 4

**ELN 4414 Receivers and Transmitters:** Upon completion of this course, students should be able to: calculate and measure the resonant frequency of various L-C circuit combinations; calculate and measure bandwidth of resonant L-C circuits; draw block diagrams and trace signal of typical AM and FM receivers and transmitters; perform alignment of receiver and transmitter coupled circuits for acceptable performance by using appropriate test and measuring equipment and techniques; perform technical analysis of AM and FM receiver and transmitter circuits as follows: frequency multipliers, small signal and large signal voltage and power amplifiers, oscillators and AM and FM detectors. Prerequisite: ELN 3406. (3-3) 4

**ELN 4415 Industrial Programmable Controllers:** A presentation of the basic principles and practical applications of Programmable Logic Controllers (PLC's). Upon completion of this course, students should be able to: convert relay ladder diagrams to PLC programs; design PLC programs for practical industrial applications; utilize peripheral devices such as recorders, input/output modules, CRT and printers; execute programs in the laboratory controlling the simulated operation of typical industrial control systems. Prerequisite: ELN 4427.

(3-3) 4

**ELN 4416 Computer Maintenance I:** Upon completion of this course, students should be able to: identify and define the various components of a small computer system; show efficiency and proper application of electronic test equipment such as oscilloscope and logic probes in computer systems; demonstrate an understanding of the theory of operation concerning how a microprocessor controls data movement to RAM, ROM, CRT terminal, floppy disk controller and a printer; localize and correct defective components (at the system, board and component levels) in the computer peripheral interface circuitry to terminals and printers; perform preventive maintenance and alignment procedures as specified. Prerequisite: ELN 4547.

(2-6) 4

**ELN 4417 Computer Circuits I:** Upon completion of this course, students should be able to: specify the improvements and advantages that digital circuitry provides in electronic equipment and devices; use binary numbers and codes to perform binary arithmetic; read logic diagrams and use manufacturer's specifications to determine operating characteristics and functions of digital circuits; draw a digital schematic circuit using proper drafting techniques; reduce digital expressions by using laws and theorems of Boolean algebra and Karnaugh maps; implement circuitry using AND, NAND, NOR and inverter gates; utilize R-S and J-K flip-flops as memory devices; use the J-K flip-flop as building block for the design of counters, storage and shift registers; construct and verify the operation of various digital circuits in a laboratory setting.

(3-3) 4

**ELN 4418 Computer Circuits II:** Upon completion of this course, students should be able to: utilize decoder circuitry to drive LED's to displaying readouts; use both astable and monostable multivibrators for timing and control of digital circuits; implement addressing and movement of data in RAM and ROM; introduction to the microprocessor in block diagram; design and analyze specific computer hardware units such as control unit and arithmetic logic units; design, draw the above circuitry and assemble it using conventional breadboarding and wirewrapping techniques in a laboratory setting. Prerequisite: ELN 4417.

(3-3) 4

**ELN 4427 Digital Circuits I:** Upon completion of this course, students should be able to: specify the improvements and advantages digital circuitry provides in electronic equipment and devices; use binary numbers and codes to perform binary arithmetic; read logic diagrams and use manufacturer's specifications to determine operating characteristics and functions of digital circuits; draw a digital schematic circuit using proper drafting techniques; reduce digital expressions by using laws and theorems of Boolean algebra and Karnaugh maps; implement circuitry using AND, OR, NAND, NOR and inverter gates; utilize R-S and J-K flip-flops as memory devices; construct and verify the operation of various digital circuits in a laboratory setting. Prerequisite: ELN 3504.

(3-3) 4

**ELN 4434 Digital Circuits II:** Upon completion of this course, students should be able to: utilize the J-K flip-flop as the

building block for the design counters, storage and shift registers; utilize decoder circuitry to drive LED's to displaying readouts; use both astable and monostable multivibrators for timing and control of digital circuits; design digital to analog and analog to digital converters to interface electronic circuitry; implement addressing and movement of data in RAM and ROM; design, draw the above circuitry and assemble it using conventional breadboarding and wirewrap techniques in a laboratory setting. Prerequisite: ELN 4427.

(3-3) 3

**ELN 4437 Microcomputer Applications in Robotics:** Upon completion of this course, students should be able to: understand robot technology; identify robots by their characteristics; identify the elements required for complex machine control; understand the advantage of feedback in control systems; understand the computer-machine interface; understand the scope of providing control hardware and software for the revolute (elbow) manipulator; design teach mode software for the Apple II-Rhino system; have a surface understanding of several robot intelligence concepts. Prerequisites: ELN 4547 and EDP 3405.

(3-3) 4

**ELN 4444 Network Analysis:** Upon completion of this course, students should be able to: determine series and parallel equivalent circuits using Kirchhoff's law; simplify DC and AC circuits to Thenevin's and Norton's equivalent; calculate electrical properties of DC and AC network circuits using superposition, mesh and nodal analysis; transform delta equivalent circuits to wye and wye to delta; and prove the above experimentally in the laboratory. Prerequisites: ELN 3515 and MAT 3508.

(3-3) 4

**ELN 4505 Power Electronics:** Upon completion of this course, students should be able to perform basic circuit design, select components, breadboard in the lab, and evaluate operational performance of the following industrial electronic circuits: industrial rectifiers, thyristor phase shift control, electronic DC motor control, switching transistor power control, variable frequency AC motor control. Prerequisites: ELN 4525 and ELN 3406.

(3-6) 5

**ELN 4525 Electrical Machines I:** Upon completion of this course, students should be able to: specify the factors required to induct a voltage and develop force in simple generators and motors; show visually the physical relation and polarities of the above factors; calculate induced voltage in generators; calculate developed force and torque in motors; calculate the electrical quantities of current, voltage, power, power factor, phase angle, voltage regulation, efficiency and the physical quantities or torque, speed and horsepower for: DC generators, DC motors, transformers, alternators, three-phase motors, single-phase motors; select and wire motors, generators, transformers, meters and loads in the laboratory as required to obtain operational data and evaluate performance of the above. Prerequisite: ELN 3515. Corequisite: PHY 2404.

(3-6) 5

**ELN 4526 Electrical Machines II:** Upon completion of this course, students should be able to: analyze and evaluate the electrical and mechanical characteristics of synchronous motors, alternators in parallel, three-phase transformers, and autotransformers; perform motor generator and transformer efficiency evaluations, and compute efficiencies at various operating loads; determine, select and evaluate overload and short circuit protective devices for optimum motor protection; design and evaluate performance of various AC and DC motor control circuits; conduct laboratory experimentation as required to obtain operational data and evaluate performance of the above devices and circuits. Prerequisite: ELN 4525.

(3-6) 5



**ELN 4547 Microprocessors I:** Upon completion of this course, students should be able to: utilize a microprocessor and based system for digital control and monitoring; interpret specifications and characteristics of the integrated circuitry associated with a microprocessor, including RAM, ROM, PROM; demonstrate the application of peripheral devices which interface with a microprocessor; interpret machine instructions and trace their execution through a typical system; write programs using both machine and assembly language for 6800 systems; execute and debug programs using individual microcomputer systems. Prerequisites: ELN 4427 and EDP 3405. (3-6) 5

**ELN 4557 Microprocessors II:** Upon completion of this course, students should be able to: design a monitor program for a microprocessor based system; write the necessary software with the aid of a 6800 assembler and editor; design appropriate I/O interfacing; debug, test and document the microcomputer system. Prerequisite: ELN 4547. (3-6) 5

**ELN 4567 Microcomputer System Design:** Upon completion of this course, students should be able to: design a microprocessor based system (6800 or 6809) with an interface module to control an industrial process; write software with the aid of editor/assembler to control the system; fully document the system with electrical schematics and source listing; construct a working board with EPROM monitor to control the system. Prerequisite: ELN 4547. (3-6) 5

## English—Advancement Studies

**ENG 9500 Effective Sentence Writing:** An individualized, self-paced course, composed of classroom and lab experience, designed to meet the needs of students who lack the necessary English grammar background to express themselves in sentences. When students have completed ENG 9500, they should be able to write clear, concise and correctly punctuated sentences both in singular sentence form and within paragraphs. (5-5) 5

**ENG 9505 Spelling and Vocabulary:** An individualized self-paced course designed to help teach the student how to pronounce speech sounds, how to pronounce words, and how to spell. The course consists of the study of speech sounds, their common spellings and production, a study of spelling rules, and a vocabulary study which is relevant to the student's program. At the completion of ENG 9505 a student's spelling, pronunciation and vocabulary of standard English should improve with careful study and exercise practice. (5-0) 5

**ENG 9510 Fundamentals of Writing:** An individualized self-paced course designed to meet the needs of students who are preparing to enter college transfer or technical communication courses. However, any student may enroll in the course. Upon completion of ENG 9510, students should be able to demonstrate that they have developed the necessary skills by writing and proofreading paragraphs and themes. Prerequisite: ENG 9500 or Prentice-Hall Test. (5-0) 5

**ENGLISH** (see COM Communications or ESL for foreign students.)

## English As A Second Language

**ESL 9102 Basic Survival ESL:** Basic Survival English as a Second Language is a crash course especially designed for

foreign-born persons whose temporary stay in the United States does not coincide with the College regular scheduling of classes. The multi-entry/multi-exit nature of this class allows for intensive English exposure on self-paced basis, including a battery of situational and conversational lab activities, all designed for upgrading oral and aural communication skills. Upon completion of this course, students should be able to ask and answer questions pertaining to greetings, personal identifications, time, money, etc. (0-2) 1

**ESL 9190 Teaching English As A Second Language:** This course is designed to familiarize students with methods used in the art of teaching English as a second language, or any language other than the native one. Upon completion of this course, students should be able to identify, test and place students of English as a Second Language properly according to their proficiency levels. Prerequisite: departmental consent. (1-0) 1

**ESL 9201 Driver's Education—Traffic Signs, Symbols and Regulations:** This course is designed to prepare foreign-born residents and full-time students with vocabulary and interpretive skills necessary to obtain the North Carolina Learner's Permit. Upon completion of this course, students should be able to meet the requirements to obtain the Permit. Prerequisite: must possess a valid visa or alien registration card. (2-0) 2

**ESL 9301 English Through Music:** The purpose of this course is to acquaint the non-English student with the standard American pronunciation and to improve expression, intonation and vocabulary by using music and the International Phonetic Alphabet. Upon completion of this course, students should be able to demonstrate evidence of improved pronunciation and vocabulary, self-confidence, and cultural adjustment. (3-0) 3

**ESL 9303 The American Way:** This course is designed to introduce the foreign-born students to all facets of life in the United States through lecture, demonstration, visual aids and discussion. It is hoped that the informal class discussion will help students better understand the reasons for actions and attitudes of the citizens of the United States and to be able to compare the similarities and differences between their native country and the United States. (3-0) 3

**ESL 9304 American Citizenship:** This course is designed to prepare foreign legal residents to become American citizens. Upon completion of this course, students should be able to pass the Citizenship and Naturalization Test administered by the Immigration and Naturalization Service. (3-0) 3

**ESL 9310 English Handwriting:** This course is designed to teach cursive English handwriting to non-English speaking persons. Upon completion of this course, students should be able to write legibly both in cursive and manuscript forms, recognizing all the letters of the alphabet, analyzing them phonetically. Students should be able to transcribe from one form to the other, maintaining differentiation between capital and lower case letters. (3-0) 3

**ESL 9504 Conversational English I:** This course is designed to provide the non-English speaking person with the basic English language skills to meet essential communication needs; that is, to provide the foreign student with survival English. Upon completion of this course, students should be able to ask and answer simple questions using English vocabulary learned in the course. (3-4) 5

**ESL 9505 Conversational English II:** An intermediate level conversational course designed to help foreign-born individuals overcome the inhibitions of speaking English as a second language. Upon completion of this course, students should be able to make a 15-20 minute speech on a subject of their own choice

using correct English grammar and pronunciation. Prerequisite: ESL 9504 or departmental consent. (3-4) 5

**ESL 9506 Conversational English III:** This course is designed to increase the ability and confidence of foreign nationals in verbal expression. Upon completion of this course, students should be able to express their own ideas, feelings, preferences and impressions clearly and present these in short, formal verbal presentations using correct English structure and pronunciation. (3-0) 5

**ESL 9514 Grammar I:** This course is designed to provide foreign-born students with the basic parts of speech of English grammar. Upon completion of this course, students should be able to: use common verbs, nouns and adjectives correctly in oral and written communications; define and distinguish between homonyms and antonyms; demonstrate knowledge of the three forms of sentences; apply correctly the rules of capitalization and punctuation; write simple paragraphs which demonstrate knowledge of the structure of simple sentences. Prerequisite: ESL 9505 or a score of 40 or above on ESL Placement Test, or departmental consent. (3-4) 5

**ESL 9515 Grammar II:** This course is designed to increase the basic English grammar skills of foreign students. Upon completion of this course, students should be able to: identify and use correctly the principal parts of speech in oral and written communications; distinguish between homophones, homographs and homonyms; interpret American idiomatic expressions, giving their English equivalents and vice versa. Prerequisite: ESL 9514, or score of 31 to 66 on the ESL Test, or departmental consent. (3-4) 5

**ESL 9516 Grammar III:** This course is designed to complete the English grammar skills of foreign nationals. Upon completion of this course, students should be able to: use prepositions correctly; write correct adjective clauses; write long sentences without shifts in tense; avoid ambiguity in pronouns; use correct punctuation and capitalization; use passive voice; write sentences with correct word order. (3-4) 5

**ESL 9524 Vocabulary I:** This course is designed to provide international students with the basic and functional vocabulary necessary for daily living. Emphasis will be placed on writing, reading, speaking and using synonyms to convey quickly the meaning and the usage of the vocabulary words being taught. Upon completion of this course, students should be able to recognize, define and use correctly in writing the vocabulary taught in this course. (3-4) 5

**ESL 9525 Vocabulary II:** This course is designed to provide international students with a low intermediate level of vocabulary, broader than ESL 9524. Emphasis will be placed on writing, reading, speaking and defining approximately 200 new vocabulary words. New vocabulary is taught in the context of short written passages, covering subjects from everyday life and is used in written exercises. Upon completion of this course, students should be able to recognize, define, pronounce and use correctly in writing the vocabulary taught in this course. (3-4) 5

**ESL 9526 Vocabulary III—American Idioms:** This course is designed to provide advanced international students with the special vocabulary and meaning conveyed through idiomatic expressions. It is an objective and concise study of the most common American idioms and their usage in speech and writing. Upon completion of this course, students should be able to comprehend the idioms in reading passages and use them in speech and in writing. (3-4) 5

**ESL 9534 Academic English:** This course is designed to develop the writing skills of foreign-born students by preparing them for their academic programs. This course is also intended to prepare students to take part two of the TOEFL test. Upon completion of this course, students should be able to demonstrate college level mastery of grammatical, writing and reading skills and pass part two of the TOEFL test. Prerequisite: ESL 9525 or a score of 31-66 on the ESL Test, or departmental consent. (3-4) 5

**ESL 9544 TOEFL Preparation I:** This course is designed to prepare foreign-born students to pass section one of the TOEFL with a minimum score of 55. Emphasis is placed upon developing test-taking skills. Upon completion of this course, students should be able to identify correct written details after listening to a spoken passage; identify correct written rephrasing of a spoken statement; and identify grammatical mistakes in prepared written statements. (4-2) 5

**ESL 9545 TOEFL Preparation II:** This course is designed to prepare foreign-born students to pass section three of the TOEFL with a score of 55. Emphasis is placed upon test-taking skills. Upon completion of this course, students should be able to match synonyms with vocabulary in context; read short passages and identify correct details as well as conclusions; and identify correct rephrasing of written statements. (4-2) 5

## Finance

**FIN 3303 Personal Investing:** In this introductory course in investments, students will learn how to define investments and describe how one should go about investing; prepare a budget allocating income, expense and savings; analyze returns on investments using financial ratios; discuss securities markets and regulation of securities markets; understand terminology and terms pertinent to stocks, bonds and other securities; discuss various investments such as insurance, investment companies, REIT's, mutual funds and tax-sheltered annuities. (3-0) 3

**FIN 3314 Business Mathematics I:** In this introductory business mathematics course, students will be taught to apply arithmetical functions to business situations. Whole numbers, fractions and decimals are reviewed. Percentage, base and rate problems with specific application for sales and property taxes are covered. Students will also study payrolls, insurance and banking. (3-0) 3

**FIN 3315 Business Mathematics II:** In this continuing business mathematics course, students will be taught to apply the basic arithmetical functions to the following business situations: retailing (including discounts, markups and markdowns), financing (including simple and compound interest, installment and real estate loans) and present value and annuities. Students will draw graphs, make simple statistical calculations and learn about investments. Prerequisite: FIN 3314. (3-0) 3

**FIN 3330 Real Estate Arithmetic:** Upon completion of this course, students will have demonstrated competency in applying basic arithmetical processes to solving problems in real estate including the following: geometric diagrams, commissions, profits and losses, appreciation and depreciation, interest, financial packages, taxes, insurance, capitalization and investments. (3-0) 3

**FIN 4303 Personal Estate Planning:** In this introductory course in estate planning, students will learn how to: determine the present condition of their estates; establish personal objectives and goals based on relevant assumptions; develop a plan to



increase their wealth; conserve estate values by minimizing estate taxes and costs; put together an estate planning team; conduct periodic reviews of the estate plan. (3-0) 3

**FIN 4317 Financial Statement Analysis:** This course is a study of the fundamentals of the major financial statements used in accounting with particular emphasis on the balance sheet and income statement. Students will be able to demonstrate satisfactory competency in the application of various techniques of analysis to determine financial position and to interpret operating results. Prerequisite: ACC 1604. (3-0) 3

**FIN 4334 Business Finance I:** Upon completion of this course, students will have demonstrated an understanding of a variety of topics related to business finance. Specific areas of study include the basic forms of business organization, taxes, financial markets, operating and financial leverage, ratio analysis, budgeting, working capital management, expansion, and reorganization and bankruptcy. Prerequisite: ACC 1604. (3-0) 3

**FIN 4335 Business Finance II:** Upon completion of this continued study of business finance, students should be able to apply various methods of evaluating investments, determine the cost of specific types of capital, and explain the financing of corporations and other business entities. Specific topics include present value concepts, capital budgeting techniques, cost of capital, capital structure, bond and stock financing, leases, and corporate dividend policies. Prerequisite: FIN 4334. (3-0) 3

**FIN 4336 Financial Management:** This course covers finance functions relating to buying, operating and selling a business. Emphasis is placed on problem solving and the development of analytical skills rather than on theory. The case method is used to develop and reinforce problem-solving skills. Students will demonstrate their ability by: solving case problems related to these functions; defining and explaining valuation, financial analysis, and capital budgeting; applying a variety of techniques for managing working capital, inventories and other business assets. Prerequisite: FIN 4335. (3-0) 3

**FIN 4350 Personal Money and Financial Management I:** This is a consumer oriented course designed to enable students to become better consumers. When completed, students should have demonstrated knowledge of: consumer laws, protection and remedies; family budgeting and financial planning; housing needs; transportation needs; uses of credit and its related problems. Awareness of consumer rights and responsibilities on the part of each student is emphasized throughout the course. (3-0) 3

**FIN 4390 Personal Money and Financial Management II:** A continuation of FIN 4350, this course is designed to enable students to become better consumers. Long-range planning is the major emphasis. Upon completion of the course, students should be able to make a long-range financial plan for the family; determine insurance needs; understand retirement income planning; understand estates, wills, trusts, and their uses; and determine the need for professional help from lawyers, accountants, bankers and others in their planning. (3-0) 3

**FIN 4400 Analyzing Financial Statements—AIB:** This is a specialized course designed for students enrolled in the AIB/Banking and Finance Programs. Upon completion of this course, students should be able to: describe the need for credit investigation and appraisal; define and describe financial statement analysis; prepare financial statements including the income statement and balance sheet; apply analytical formulae to interpret these statements; prepare a cash budget and operating budget. (4-0) 4

## Fire Science

**FIP 3301 Fire Prevention Programs and Public Relations:** Upon completion of this course, students should be able to: list and discuss the principles and applications of fire prevention related to the community and industrial plants; discuss the development and maintenance of fire prevention programs, educational programs and inspectional programs; apply related disciplines to fire prevention problems. (3-0-0) 3

**FIP 3303 Fire Protection I:** Upon completion of this course, students should be able to: state the duties and obligations of fire service, fire protection and safety personnel; identify general fire hazards and causes, fire protection principles; demonstrate skill in applying these principles in the elimination or reduction of the fire hazards and causes; compare current trends and federal legislation in fire protection to early fire protection developments. (3-0-0) 3

**FIP 3304 Fire Protection II:** Upon completion of this course, students should be able to: list and describe eight major elements of personnel management; list and describe the principles of supervision; describe the factors of motivation; list and evaluate the principles of discipline. (3-0-0) 3

**FIP 3310 Learn Not to Burn:** Upon completion of this course, students should be able to: understand the operation of two basic types of smoke detectors; choose the correct portable fire extinguisher for different areas of the home and be able to use them correctly; devise and execute an adequate home fire escape plan. (3-0-0) 3

**FIP 3401 Plant Emergency Operations:** Upon completion of this course, students should be able to: define in relation to the industrial facility the regulatory requirements as imposed by OSHA, insurance carriers, and other regulation agencies; develop a plan of interfacing with outside assisting emergency organizations; develop a procedure for organizing, staffing, and training a plant emergency brigade. (3-2-0) 4

**FIP 3404 Chemistry of Flammable Materials:** Upon completion of this course, students should be able to: list and describe theories of combustion and extinguishment; analyze flammable materials and describe the nature of extinguishing agents; list the properties of matter affecting fire behavior; discuss the use, storage and disposal of flammable solids, liquids, gases and dust, using the laws and principles of chemistry and physics as a basis for discussion. Prerequisite: CEM 3300. (3-2-0) 4

**FIP 3405 Flame Propagation and Material Rating:** Upon completion of this course, students should be able to: explain the three basic elements which determine the fire hazards of a building; define the different types of interior finish to exclude trim and incidental finishes; calculate the flame spread behavior of floor covering systems to include cellulosic materials, carpet materials and certain floor tiles. *Note: Student must have Student Accident Insurance.* (2-4-0) 4

**FIP 3406 Arson Investigation I:** Upon completion of this course, students should be able to: compare and contrast the facts, truths, trends, and statistics pertaining to loss of life and property from accidental and incendiary fires; identify the effects of fire and its behavior, including the factors which influence the spread of fires, such as weather, heat transformed, and spontaneous heating; categorize, list and document the fire scene and submit evidence for scientific examination. (3-2-0) 4

**FIP 3408 Arson Investigation II:** Upon completion of this

course, students should be able to: examine a fire area to determine ordinances and codes of fire protection and the responsibilities and powers of the individual or organizations concerning enforcement; discuss liability of fire protection personnel when making inspections, recommendations, fighting fires and other tasks; discuss specific court cases including tort, terms and contracts. (3-0-0) 3

**FIP 4314 Methods of Teaching:** Upon completion of this course, students should be able to: discuss purposes of fire service drills and training programs; discuss the development and operation of Charlotte-Mecklenburg training programs; list and describe facilities and necessary equipment for modern training; discuss the selection and training of instructional staff and appropriate methods of instruction. (3-0-0) 3

**FIP 4403 Hydraulics for Fire Protection:** Upon completion of this course, students should be able to: describe the flow of fluids through fire hoses, nozzles, appliances, pumps and other devices; describe the designs, uses and testing of nozzles, appliances and pumps; and measure fluid flow accurately using appropriate methods of determining quantities of water available through fire systems. Prerequisite: MAT 3500. (3-2-0) 4

**FIP 4404 Water Distribution Systems:** Upon completion of this course, students should be able to: identify and describe sources of water, water storage, measurement of fluid flow and methods of determining quantities of water available from a distribution system. Prerequisite: MAT 3500. (3-2-0) 4

**FIP 4405 Sprinkler and Standpipe Systems:** Upon completion of this course, students should be able to: identify and describe the various types of sprinkler and standpipe systems; list and discuss system devices and their operations to include advantage of sprinkler system, codes governing installation, water supply requirements, testing, inspection, and maintenance. (3-2-0) 4

**FIP 4414 Inspection Principles and Building Codes:** Upon completion of this course, students should be able to: list fundamentals of fire inspection including standards, techniques of evaluation of hazards by degrees, and practical recommendations; inspect buildings and write reports on each building, to include maps and sketches of each building, location of hazards, and recommendations for safe practices and improvements. (3-0-3) 4

**FIP 4423 Portable and Fixed Extinguishing Systems:** Upon completion of this course, students should be able to: list and describe the various types of portable and fixed extinguishing systems, their operation, application, installation and maintenance; demonstrate skill in operating portable and fixed extinguishing systems. (3-2-0) 4

**FIP 4424 Automatic Alarm Systems:** Upon completion of this course, students should be able to: list and describe the types of standard and special fire alarm and fire detection systems to include discussion of their operations, installation requirements, testing, inspections, and maintenance. (3-2-0) 4

**FIP 4434 Chemical and Radiation Hazards:** Upon completion of this course, students should be able to: list and describe the hazards encountered in chemical and petroleum industries; list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; list and describe common uses of radioactive materials, their transportation and storage; demonstrate skills of chemical and radioactive inspections. Prerequisite: FIP 3404. (3-2-0) 4

**FIP 4444 Fire Fighting Strategy:** Upon completion of this

course, students should be able to: list and describe tactics and strategy in extinguishing fires; list and describe pre-fire plans, fire flow calculations, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires and fuel analysis; demonstrate appropriate response to simulated crises. (3-2-0) 4

**FIP 4454 Building Construction:** Upon completion of this course, students should be able to: list and discuss building codes applicable to fire prevention; list and describe the principles and practices used in various types of building construction. (3-2-0) 4

**FIP 4464 Hazardous Material Analysis and Emergency Planning:** Upon completion of this course, students should be able to: describe the various hazard survey principles and techniques for detecting the presence of hazardous materials in industrial/commercial occupancies; demonstrate the use of reference resources and identification systems for hazardous materials properties; develop a pre-plan from on-site visits of an oil/gasoline tank farm, railroad terminal yard, LPG tank storage farm, and a chemical plant. Prerequisite: FIP 4434. (2-4-0) 4

## French

**FRE 1300 Travel French:** This course provides an oral approach to comprehending and communicating in French. Upon completion of FRE 1300, students should be able to use basic communication in terminals, shops, restaurants, hotels and other places. Tapes, filmstrips, movies and extensive conversation in the classroom reinforce instruction. (Elective credit only. Does not satisfy humanities requirement.) (3-0) 3

**FRE 1600 Elementary French I:** Upon completion of this course, students will have a knowledge of some basic elements of French in conversation, reading and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

**FRE 1601 Elementary French II:** This course is a continuation of FRE 1600 in basic elements of conversation, reading and writing. Prerequisite: FRE 1600 or consent of department head. (Does not satisfy humanities requirement.) (5-2) 6

**FRE 2320 Special Topics:** This is an advanced course in which students and the instructor select topics for independent study. Class meetings for oral reports and discussion. Prerequisite: FRE 2600 or consent of department head. (3-0) 3

**FRE 2600 Intermediate French I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. Prerequisite: FRE 1601 or two high school units or consent of department head. (5-2) 6

**FRE 2601 Intermediate French II:** Upon completion of this course, students will have completed their review of grammar along with readings in French with emphasis on people and events that have determined the destiny of France from the beginnings to the present. Prerequisite: FRE 2600 or consent of department head. (FRE 2600 and FRE 2601 combined will satisfy humanities requirement.) (5-2) 6

## Food Preparation

**FSO 3300 Introduction to Food Service Occupations:** Upon completion of this course, students should be able to: cite the sanitation rules of Charlotte and the state code of North Carolina; distinguish between a chain restaurant, corporate



hotel, country club operation, cafeteria and coffee shop, recognizing the proper chain of command; explain the basic function of each department existing in an entire food service operation. (3-0) 3

**FSO 3301 Nutrition:** This course is designed to provide students with basic facts about foods and nutrition and to aid them in developing the ability to sort out and apply new developments in this field to food preparation. Upon completion of this course, students should be able to: explain the relationship of food to health and physical fitness; discuss food nutrients and their functions in the body; describe how the body utilizes food; explain the process of getting food from the producers to the consumer; discuss the essentials of an adequate diet to maintain health. (3-0) 3

**FSO 3305 Table Cookery:** Upon completion of this course, students should be able to: demonstrate the necessary knowledge and skill to become a competent waiter, waitress, hostess or host; prepare the various dishes that are appropriate for table cookery, including flaming desserts and salads prepared at the table; explain the correct temperatures at which wines should be served. (2-3) 3

**FSO 3504 Food Preparation I:** This is an introductory course in food preparation and dining room service. Upon completion of this course, students should be able to: demonstrate skills essential to becoming a cook; participate in activities which are of value in understanding present-day food service establishments and dining room technology; explain developing trends and opportunities for individual advancement in the industry. (2-9) 5

**FSO 3505 Food Preparation II:** Upon completion of this course, students should be able to: demonstrate the skills necessary for cooking at an advanced level, including methods of preparing American and European cookery; prepare various sauces, egg and cheese dishes; weigh and measure ingredients for cooking accurately; describe the difference between American and European dining room service. (2-9) 5

**FSO 3506 Food Preparation III:** Upon completion of this course, students should be able to: prepare the more complex hot soups (Consomme Royale, Lobster Bisque), a variety of cold soups (Vichyssoise, Borscht, Rose en Hiver), and be familiar with each soup garnish; prepare the standard (seafood crepe, stuffed and various mushrooms) and advanced appetizers (Escargot, Oysters Rockefeller); explain appropriate appetizers for various types of menus; demonstrate an understanding of the showmanship necessary to achieve a successful product; identify the different types of food service (Banquet, Menu Buffet), differentiate between them and explain what constitutes each. (2-9) 5

**FSO 4304 Food and Labor Cost Controls:** This course concerns food costs and skills necessary for setting food cost objectives. Upon completion of this course, students should be able to: define food costs; perform skills necessary for setting food cost objectives; explain the value of establishing standard portions; demonstrate knowledge of purchasing methods; discuss the importance of a weekly inventory; explain the importance of Food Issuing forms; explain the value of comparative buying. (3-0) 3

**FSO 4407 Baking I:** This is an introductory course in the principles of baking and the skills necessary to make bread, rolls and cakes. Upon completion of this course, students should be able to demonstrate the use of correct measurements and the proper use of various baking tools and equipment related to baking; bake French, white, whole wheat and rye bread. (2-6) 4

**FSO 4408 Baking II:** This is an advanced course in baking, stressing mixing methods and defining the function of each ingredient. Upon completion of this course, students should be able to demonstrate the ability to handle and roll basic dough; recognize the differences between the pastry, baking and ice cream units. (2-6) 4

**FSO 4409 Baking III:** Upon completion of this course, students should be able to: identify ingredients used in various icings, French and Danish pastries; explain the function of each ingredient; describe the methods of making different icings; demonstrate the use of large and small pastry bags; identify appropriate decorating tubes used for various decorations; prepare and use the correct ingredients to produce a birthday, wedding and specialty cakes; create flaming desserts. (2-6) 4

**FSO 4414 Garde Manger I:** This is an introductory course in meat cutting and salad preparation. Upon completion of this course, students should be able to demonstrate the showmanship necessary in creating fancy meat platters and the skills required in ice carving and tallow sculpturing. (2-6) 4

**FSO 4415 Garde Manger II:** Upon completion of this course, students should be able to: apply the techniques of processing and dressing meats, including poultry and seafood; construct various sandwiches; identify ingredients used in numerous salad dressings; recognize color, flavor and texture combinations used in aspics and glazes for show pieces; carve simple ice and tallow pieces; identify ingredients that constitute tallow; create fancy mousses and aspics. (2-6) 4

**FSO 4416 Garde Manger III:** Upon completion of this course, students should be able to: prepare fancy salads, special sandwiches and a classic chaud froid show piece; identify various nutritive values associated with fresh fruits and vegetables and explain how to maintain these nutrients during preparation and cooking; differentiate the responsibilities of the Garde Manger section. (2-6) 4

**FSO 4419 Baking IV:** Upon completion of this course, students should be able to: prepare onion rolls, soft rolls, French and rye bread; prepare royal, buttercream and boiled icings; make and work with gum paste; know and demonstrate use of appropriate decorator tubes; make flowers—roses, lilies and daisies; make and decorate birthday, wedding and specialty cakes. (2-6) 4

**FSO 4426 Garde Manger IV:** Upon completion of this course, students should be able to: plan, coordinate and execute a buffet successfully; demonstrate specific skills in carving, setting up, garnishing and planning; set up a "working" pantry area with emphasis on traffic patterns, refrigeration and space limitations for a full-service restaurant; plan, coordinate and execute a cocktail party with emphasis on preparation of fancy hors d'oeuvre, glazing and setting up trays; create garnishes using correct color and food combinations; plan menus; supervise Garde Manger staff. (2-6) 4

**FSO 4506 Food Preparation IV:** Upon completion of this course, students should be able to: saute, fry, roast, braise, stew and broil meats, in addition to demonstrating how to carve different cuts of meat, poultry and fish; define the difference between roasting and braising and prepare items using both methods of cooking; recognize the different types of game and demonstrate the ability to prepare these; demonstrate the ability to use the necessary equipment used to carve; demonstrate knowledge of the fundamentals used in purchasing provisions and groceries. (2-9) 5

**FSO 4208 Cooperative Education:** This course is designed

to aid students in applying the skills necessary for success in the good service industry by providing actual supervised work experience in the food service industry under the guidance of an Executive Chef. Upon completion of this course, students should be able to perform successfully the objectives outlined in the training plan, including such skills as ability to operate fry, broiler and saute stations; set up a salad station; prepare salads; perform bakery shop operations; evaluate their own performance in the field; assess requirements and responsibilities for successful employment and evaluate their own capacity to comply with such demands. (0-20) 2

## Geology

**GEL 1604 Physical Geology:** An introductory course with emphasis on geology as an environmental discipline. Upon completion of this course, students should be able to demonstrate knowledge in the following areas: common minerals and rocks, earth processes, development of surface features, and geologic resources. (5-2) 6

**GEL 2605 Historical Geology:** A course in the historical sequence of the earth's history. Upon completion of this course, students should be able to demonstrate knowledge in these areas: recognition of major fossils and associated rock strata; appreciation of the age of many geological formations and how historical geology aids in finding natural resources. (5-2) 6

## General Studies

**GEN 1140 Field Biology:** This course is specifically designed to meet the needs of the general interest Weekend College student. The course consists of three full days of instruction (7-1/3 hours each) in various field locations from local environments to those in other states. Students will provide their own transportation to and from field locations. (0-22) 1

**GEN 1141 Introduction to Nature Photography:** An introduction to the basic principles of nature photography with emphasis on the various types of cameras, lenses and films, indicating what the limitations of each are. Also an introduction to the techniques of photography from blinds and tips on how to photograph anything from wild flowers to birds. (0-22) 1

**GEN 1142 Field Biology/Ecology of North Carolina:** This course consists of three 7-1/3 hour field sessions: one each to Coastal region/seashore, Piedmont region, and mountains. Each trip provides in the field instruction about the area visited. Highlights of the ecology, geology, flora and fauna of each area are observed and discussed. The course uses three different instructors, each with experience and expertise in the specific area. Students will provide their own transportation to and from field locations. (0-22) 1

**GEN 1143 Edible Wild Plants:** This course consists of 5 hours of lecture and 12 hours of lab (field trips). The class sessions utilize slide demonstrations to acquaint students with edible wild plants of the area. Information on the preparation of these plants will be provided. The field sessions will involve identification of edible wild plants. Students will provide their own transportation to and from field locations. (5-12) 1

**GEN 1144 Ecology by Canoe:** A course of general interest designed to meet the needs of the Weekend College student. The course is made up of 3 all-day (7-1/3 hours) field trips by canoe. Students will learn about the flora and fauna of three different geographical regions and streams of North Carolina: i.e., Swamp, Piedmont and Mountain. Little or no canoeing

experience is necessary—flatwater streams are selected. Students will provide their own transportation to and from field locations. (0-22) 1

**GEN 1148 Field Identification of Insects:** An introduction to insect identification using taxonomic keys down to the major orders of insects. Characteristics of insects will be compared to other arthropods and other animal phyla. Also the importance of insects to humanity and the environment will be stressed along with control methods. (0-22) 1

**GEN 1149 Field Ornithology:** An introduction to the identification and study of birds in the field. Upon satisfactory completion of this course, students should be able to identify several kinds of birds on sight and demonstrate knowledge of special adaptations, kinds of food, and life histories of selected species. (0-22) 1

**GEN 1230 Writing to Sell:** This course focuses upon the technique of researching, writing and selling nonfiction prose. "Slanting" or adapting articles to specific magazines, newspapers, and other such publications is emphasized. The object of the course is to prepare written materials for marketing. (2-0) 2

**GEN 1300 Career Planning:** Through this course, students can learn the process for career/life planning which enables them to assemble and organize information about themselves and society in order to make career/life decisions. Upon completion of this course, students should be able to: describe the changing nature of work and lifestyles in the United States; understand their individual responsibility for creating a satisfactory work/lifestyle balance; demonstrate that one can make significant changes in the quality of life; use tools and techniques required to undertake career/lifestyle planning; engage in the process of goal setting. (3-0) 3

**GEN 1512 Divorce:** A course designed for the formerly married and those in the process of terminating marriage. Class sessions will utilize guest speakers drawn from the College and the community. Through paper and pencil testing, students will demonstrate more positive attitudes toward divorce, a greater knowledge of the state and national trends of divorce, and the impact of divorce on children. Students will demonstrate a greater awareness of the local agencies and resources which can assist with the problems associated with divorce, and the consumer rights and credit rights of a formerly married person. Each student will develop an occupational and/or career advancement plan for future use. (5-0) 5

## Geography

**GEO 1614 Introduction to Physical Geography:** A study of the basic physical elements of geography aimed at understanding the physical environment. Upon completion of this course, students should be able to demonstrate a basic understanding of the earth's geographic grid system, earth-sun relations, basic concepts of cartography, meteorology, hydrology, climatology and biogeography. (5-2) 6

## German

**GER 1600 Elementary German I:** This course emphasizes basic elements of German in conversation, reading and writing for beginning students, with laboratory tapes to reinforce classroom instruction. (Does not satisfy humanities requirement.) (5-2) 6

**GER 1601 Elementary German II:** This course is a continua-



tion of GER 1600 in basic elements of conversation, reading and writing. Prerequisite: GER 1600 or departmental consent. (Does not satisfy humanities requirement.) (5-2) 6

**GER 2600 Intermediate German I:** This course provides an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. Prerequisite: GER 1601 or two high school units or consent of department head. (5-2) 6

**GER 2601 Intermediate German II:** This course is a continuation of GER 2600. Reading of selections from German literature are combined with oral and written work in class. Prerequisite: GER 2600 or consent of department head. (GER 2600 and GER 2601 combined will satisfy humanities requirement.) (5-2) 6

## Health Education

**HED 1111 Special Health Problems:** Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (1-0) 1

**HED 1201 Special Health Problems:** Selected health problems are chosen for study. Students are presented a subject area and should be able to identify and describe possible solutions to these problems. (2-0) 2

**HED 1203 Cardiopulmonary Resuscitation (CPR):** Students are instructed in Emergency First Aid and CPR procedures that should enable them to give care to the injured and/or perform emergency procedures when cardiac arrest occurs. The CPR Certificate will be awarded upon successful completion of course. (2-0) 2

**HED 1204 Standard First Aid:** The purpose of first aid Training is to acquire knowledge and skill to enable students to provide emergency care for the sick and injured until medical help can be obtained. The Red Cross Standard First Aid and Personal Safety Certificate will be awarded upon successful completion of course. (1-2) 1

**HED 1205 Standard First Aid Instructor:** A course to prepare students as instructors in standard first aid. Students will write lesson plans and present these in class situations. Successful completion of this course will qualify students as Red Cross Instructors of Standard First Aid and Personal Safety and a certificate will be awarded. Prerequisite: HED 1204. (1-2) 2

**HED 1206 Advanced First Aid and Emergency Care:** Upon completion of this course, students should be able to perform advanced techniques of first aid skills in caring for the sick and injured. The Red Cross Advanced First Aid Certificate will be awarded upon successful completion of this course. Prerequisite: HED 1204. (1-2) 2

**HED 1207 CPR Instructor:** Upon completion of this course students should be able to prepare lesson plans for teaching cardiopulmonary resuscitation and present these plans in class. They should be able to administer tests of basic CPR skills. The CPR Instructor certificate will be awarded upon successful completion. Prerequisite: HED 1203. (2-0) 2

**HED 1300 Introduction to Health Education:** Upon completion of this course, students should be able to define the basic concepts of health and relate these to everyday life. They will be asked to evaluate health information and identify current health issues. (3-0) 3

**HED 1301 Special Health Problems:** Selected health problems are chosen for study. Students are presented a subject area

and should be able to identify and describe solutions to these problems. (3-0) 3

**HED 1310 Your Health—Your Choice:** A course containing 30 video modules each concentrating on specific health related topics. Upon completion of course, students should be able to identify and recognize problems and solutions to areas such as diseases of present day civilization, nutrition, drug abuse, aging, consumer health and other pertinent topics. They also should be able to describe personal health choices that can influence total health of the individual. (2-2) 3

**HED 2204 Prevention and Treatment of Injuries at Recreation Events:** Upon completion of this course, students will be able to identify areas of athletic injuries, be able to give first aid for these injuries and describe ways to prevent recurrence. Students will renew their certificate in Red Cross Standard First Aid and CPR. (2-2) 3

## Health, Physical Education and Recreation (see: HPE)

## History

**HIS 1500 World Civilization I:** This course involves a study of the development of civilization from the prehistoric period to the Seventeenth Century. Upon completing this course, students should be able to analyze significant events and identify patterns in early political, socio-economic, religious, intellectual and artistic development in Europe, Asia and Africa, making relationships between past events and relating these to contemporary problems. (5-0) 5

**HIS 1501 World Civilization II:** This course involves a study of development of civilization from the Seventeenth Century to the present. Upon completing this course, students should be able to analyze significant events and identify patterns in recent political, socio-economic, religious, intellectual and artistic development in Europe, Asia, Africa and the Americas, thus giving context for understanding the present world order. (5-0) 5

**HIS 1502 American History I:** Upon completion of this course, students should be able to: analyze significant events and identify patterns in the political, socio-economic, religious, intellectual and cultural developments in America from the Colonial era to 1877; evaluate major historical interpretations of this period of American history. (5-0) 5

**HIS 1503 American History II:** Upon completion of this course, students should be able to: analyze significant events and identify patterns in the political, socio-economic, religious, intellectual and cultural developments in American history from 1877 to the present; evaluate major historical interpretations of this period of American history. (5-0) 5

**HIS 1510 The American Civil War:** Upon completion of this course, students should be able to: explain why the Civil War was a turning point in our nation's history; describe why the tragic years from 1861 to 1865 form an important episode in our national history; explain why, before 1860, the Southern economy was bound to the institution of slavery; describe how the divergent economic structures of the North and South would cause conflict; explain the frame of reference of the North and South in terms of ideology. (5-0) 5

**HIS 1520 Black History I:** Upon completion of this course, students should be able to: analyze significant events and iden-

tify patterns in the political, socio-economic, religious, intellectual and cultural developments of the Black American from ca. 3000 B.C. to 1865; analyze and evaluate the philosophies of major Black American leaders from the era of Colonial America to the era of the Civil War; evaluate major historical interpretations of Black American history. (5-0) 5

**HIS 1520 Black History II:** Upon completion of this course, students should be able to: analyze significant events and identify patterns in the political, socio-economic, religious, intellectual and cultural developments of the Black American from 1865 to the present; analyze and evaluate the philosophies of major Black American leaders during this period; evaluate major historical interpretations of Black American history. (5-0) 5

**HIS 2105-2504 Special Topics in History:** This designation allows students individually or in groups to investigate in greater detail special topics of particular interest not covered in regular classroom offerings. The specific objectives will vary with each course. By consent of instructor and department head. (1 to 5 hrs. class/week—1 to 5 hrs. Credit).

**HIS 2500 North Carolina History:** Upon completion of this course, students should be able to examine the major historical, geographical and governmental developments in North Carolina from the colonial era to the present. Through field trips and special projects they will evaluate the cultural developments and socio-economic contributions of the State. (5-0) 5

**HIS 2520 Oriental Civilization:** Upon completion of this course, students should be able to: explain basic political, socio-economic, religious and cultural developments in the history of East, Southeast, South and West Asia from the earliest times to the present; identify significant persons, events and ideas in the above mentioned area and period of study; learn independently from written materials; organize and present, orally and/or in writing, coherent reports on relevant topics; demonstrate comprehension that contemporary social, economic and political problems are rooted in the past; demonstrate appreciation that causal explanation in history is necessarily complex. (5-0) 5

**HIS 2530 Russian History:** Upon completion of this course, students should be able to: explain basic political, socio-economic religious and cultural developments in the history of Russia from its earliest beginnings through today; identify significant persons, events and ideas in the above mentioned area and period of study; learn independently from written materials; organize and present, orally and/or in writing, coherent reports on relevant topics; demonstrate comprehension that contemporary social, economic and political problems are rooted in the past; demonstrate appreciation that causal explanation in history is necessarily complex. (5-0) 5

## Horticulture

**HOR 3111 Horticulture Seminar:** Upon completion of this course, students should be able to: demonstrate knowledge of various horticulture job classification responsibilities and rewards that are entailed in each; demonstrate knowledge of various horticultural organizations and agencies. (1-0) 1

**HOR 3202 Home and Yard Horticulture:** Upon completion of this course, students should be able to: recognize common woody and herbaceous plant material and make decisions regarding its use; demonstrate a general knowledge of grounds maintenance to include fertilizing, pruning and plant pest control; demonstrate a general knowledge of plant, turf and spe-

cialty garden installation requirements. (2-0) 2

**HOR 3205 Cooperative Work Experience (Co-Op):** Upon completion of this course, students should be able to: exhibit a positive attitude toward work in a horticultural business; gain applied experience to supplement class and lab learning. Prerequisite: Permission of program director or program counselor. Prerequisite or Corequisite: Registration for HOR 4200. (0-20) 2

**HOR 3210 Floral Design:** Upon completion of this course, students should be able to: demonstrate basic care and handling of cut flowers; choose and utilize basic floral supplies; demonstrate the 9 fundamental floral design lines; demonstrate 4 basic types of floral design pieces. (1-2) 2

**HOR 3302 Landscape Graphics and Measurements:** Upon completion of this course, students should be able to: execute measurements commonly used in landscaping; read "working" landscape plans and specifications; prepare basic "working" landscape plans and specifications; reproduce landscape plans. (2-2) 3

**HOR 3307 Landscape Your Own Home:** Upon completion of this course, students should be able to: analyze the outdoor needs of the family and the environment factors affecting the property; allot space for landscape uses; choose the proper plant material and outdoor architectural features to enhance their property; discuss and construct basic landscape construction features. (3-0) 3

**HOR 3312 Indoor Plants:** Upon completion of this course, students should be able to: describe the characteristics to look for in houseplants and plant shops; discuss the importance of selected tools, supplies and containers to proper houseplant care; discuss the effects of selected environmental factors important to houseplants; identify 30 selected houseplants; identify and give control measures for 12 selected pest problems of houseplants. (2-2) 3

**HOR 3400 Landscape Plants I—Woody:** Upon completion of this course, students should be able to: identify by sight the 86 selected plants; list the physical characteristics, cultural requirements and landscape uses of these plants; identify any special remarks regarding these plants. (3-2) 4

**HOR 3401 Plant Propagation I:** Upon completion of this course, students should be able to: perform the following types of asexual propagation: layering, cuttings, grafting, budding, dividing; perform sexual (seed) propagation of ornamental plants; select, use and maintain equipment and supplies used in plant propagation; choose the correct propagation method for a variety of ornamental plants. (2-4) 4

**HOR 3404 Landscape Plants II—Woody and Herbaceous:** Upon completion of this course, students should be able to: identify by sight the 120 selected plants; list the physical characteristics, cultural requirements and landscape use of these plants; identify any special remarks regarding these plants. (3-2) 4

**HOR 3405 Grounds Maintenance II:** Upon completion of this course, students should be able to: explain the purpose of and list sources of the major, minor and trace nutrient elements; perform simple soil tests for nutrient content and pH; select and apply fertilizers correctly to selected ornamentals; identify and execute preventive and corrective controls of selected insect pests of ornamentals; identify and execute preventive and corrective controls of selected disease pests of ornamentals; select, use and maintain equipment, items and materials used in the above operations. (2-4) 4



**HOR 3410 Turf Management:** Upon completion of this course, students should be able to: identify at least 7 selected turf grasses; list the cultural requirements for each of the seven selected turf grasses; establish turf grasses by 4 different methods; maintain turf grass by being able to select and use turf equipment and supplies; identify and control common turf pests. (2-4) 4

**HOR 3503 Nursery Technology:** Upon completion of this course, students should be able to: perform the day to day operations used to grow, maintain and harvest both container and field grown nursery stock; select, use and maintain nursery equipment and supplies; discuss the various kinds of nurseries; discuss marketing of nursery products and services; perform garden center operations. (3-4) 5

**HOR 3504 Grounds Maintenance I:** Upon completion of this course, students should be able to: identify problems of and execute preventive and corrective controls of weed problems common to ornamentals; select and apply mulches for usual maintenance situations; identify and execute preventive and corrective controls of water problems in grounds maintenance; prune all plants on a selected list of ornamentals; select, use and maintain equipment items used in the above operations. (3-4) 5

**HOR 3505 Landscape Gardening:** Upon completion of this course, students should be able to: analyze the landscape potential of a landscape project area; prepare detailed landscape plans, plant lists and planting specifications; install a landscape planting; perform basic landscape construction. Prerequisite: HOR 3302. (3-4) 5

**HOR 4200 Work Experience Seminar:** Upon completion of this course, students should: describe tasks and competencies under various jobs performed during co-op experience; discuss employee-employer relationships; complete a job application and simulated job interview. (2-0) 2

**HOR 4203 Advanced Floral Design:** Upon completion of this course, students should be able to: demonstrate skill in the processing of cut flowers; demonstrate skills in the following floral design areas: container setup and selection, holiday arrangements, advanced wedding arrangements, advanced funeral pieces, dried flower, silk and twig arrangements, mats, brooms and fruit arrangements, oriental and free form creative design pieces. Prerequisite: HOR 3210 or permission of instructor. (1-2) 2

**HOR 4400 Arboriculture:** Upon completion of this course, students should be able to: identify growth characteristics of selected shade and ornamental trees; select and apply correct tree maintenance procedures to include: fertilizing, pruning, pest prevention and control; know and apply basic safety rules of climbing and felling. (2-4) 4

**HOR 4404 Plant Propagation II:** Upon completion of this course, students should be able to: perform advanced asexual propagation techniques to include: 5 types of layers, 7 types of cuttings, 6 types of grafts and/or buds, and aseptic cultures; perform advanced sexual propagation techniques to include: selected pollination, scarification, stratification; complete detailed propagation project as assigned by the instructor. Prerequisite: HOR 3401. (2-4) 4

**HOR 4411 Greenhouse Horticulture:** Upon completion of this course, students should be able to: demonstrate a working knowledge of greenhouse construction, materials and equipment; discuss the physical and cultural needs of greenhouse plants; demonstrate a working knowledge of the growing of cut

flower, bedding plant, seasonal pot plant and foliage plant crops. (2-4) 4

## Health, Physical Education And Recreation

**HPE 1100 Individual Activity:** These are exploratory courses taught on a temporary basis for possible inclusion in the regular program approved by the Health, Physical Education and Recreation Division for a particular student. (0-3) 1

**HPE 1103 Water Skiing:** An introduction to the sport of water skiing. Upon completion of this course, students should be able to care for equipment used, identify safety procedures, and develop fundamental skills of water skiing. Prerequisite: Demonstrated swimming proficiency. (0-3) 1

**HPE 1104 Fencing—Beginning:** Introduction to the art of fencing. Upon completion of this course, students should be able to perform elementary foil technique and be introduced to competitive fencing. (0-3) 1

**HPE 1105 Fencing—Intermediate:** This course is a continuation of beginning fencing. Upon completion of this course, students should be able to perform foil techniques such as the balastra, the fleche, the croise, taking the blade and competitive fencing. Prerequisite: HPE 1104 or equivalent. (Self-supporting)\* (0-3) 1

**HPE 1106 Fencing—Advanced:** In this advanced course, students should be able to execute elementary sabre techniques (the on-guard position, the lunge, the cut at head, crest and flank); various parries; more advanced foil techniques; and engage in advanced competitive fencing. Prerequisite: HPE 1105 or equivalent. (Self-supporting)\* (0-3) 1

**HPE 1107 Self-Defense and Physical Conditioning—Beginning:** The first in a series of three courses designed to promote physical well-being and increased self-confidence through the acquisition of skills in self-defense. Upon completion of this course, students should be able to demonstrate stances, blocks, punches, walking and kicks. (0-3) 1

**HPE 1108 Self-Defense and Physical Conditioning—Intermediate:** A continuation of the beginning course in which students should be able to execute pre-arranging and will start first forms and katas. Prerequisite: HPE 1107 or equivalent. (0-3) 1

**HPE 1109 Self-Defense and Physical Conditioning—Advanced:** Upon completion of this course, students should be able to perform skills learned in the intermediate course and will perform advanced new techniques and skills in free fighting and defense against weapons. Prerequisite: HPE 1108 or equivalent. (0-3) 1

**HPE 1111 Scuba Diving:** An introduction to the sport of scuba diving. Upon completion of this course, students should be able to use the face mask, snorkel, fins, and other scuba gear correctly. Prerequisite: Demonstrated swimming proficiency. (Self-Supporting)\* (0-3) 1

**HPE 1114 Snow Skiing—Beginning:** Instruction in the proper fundamentals of skiing, safety and etiquette. Upon completion of this course, students should be able to do parallel

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turns, christies, basic jump and introductory wedelin. (Self-Supporting)\* (0-3) 1

**HPE 1115 Snow Skiing—Intermediate:** Upon completion of this course, students should progress to longer skis, concentrating on improving traverse and side slip; expand on angulation, pole plant and unweighting, and engage in an intermediate exercise program in order to handle more advanced terrain. Prerequisite: HPE 1114 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1116 Snow Skiing—Advanced:** Upon completion of this course, students should be able to do slalom and giant slalom techniques, elementary downhill techniques, trick skiing and jumping. Prerequisite: HPE 1115 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1117 Ice Skating—Beginning:** Upon completion of this course, students should be able to perform basic ice skating maneuvers such as forward and backward, stroking one-foot glide, cross overs, arabesque, and backward wiggle—giving solid foundation to build in future ice skating activities. (0-3) 1

**HPE 1118 Ice Skating—Intermediate:** Upon completion of this course, students should be able to exhibit advanced maneuvers such as backward stroking, backward scooters, forward outside and inside eights, backward arabesque, and right-left forward inside mohawk followed by backward-outside mohawk. Prerequisite: HPE 1117 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1119 Ice Skating—Advanced:** Upon completion of this course, students should be able to exhibit advanced maneuvers including two foot spin, forward-backward chasses in four dance positions, the Dutch Waltz, Cross Rolls in dance position, and Waltz and Ballet Jump. Prerequisite: HPE 1118 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1123 Physical Fitness—Beginning:** Upon completion of this course, students should be able to identify positive health practices in physical activity, diet, rest and relaxation; show evidence of improved cardiovascular endurance, upper body strength, and flexibility; plan a training program which will result in the achievement and/or maintenance of a high level of health fitness. (0-3) 1

**HPE 1124 Physical Fitness—Intermediate:** Upon completion of this course, students should be able to take each component of fitness (strength, cardiovascular and muscular endurance and flexibility) and perform specific exercises related to each. Students will be asked to continue development of a personal fitness program. Prerequisite: HPE 1123 or equivalent. (0-3) 1

**HPE 1126 Social Dance—Beginning:** Upon completion of this course, students should be able to demonstrate specific dance skills and perform the following dances: Fox Trot, Waltz, Lindy, Cha-Cha, and Rumba. (Self-Supporting)\* (0-3) 1

**HPE 1127 Social Dance—Advanced Beginner:** Upon completion of this course, students should be able to perform more difficult steps and types of dance including the Tango, Samba, Polka and the Discotheque. Prerequisite: HPE 1126 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1128 Social Dance—Intermediate:** Upon completion of this course, students should be able to add more difficult steps to the dances learned in HPE 1127. They will learn to perform basic steps in the Charleston. Prerequisite: HPE 1127 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1129 Social Dance—Advanced:** This is an advanced

study of popular social dances designed to instruct the experienced student in advanced steps and to polish the dancer's technique. Upon completion of this course, students should be able to perform basic steps in the Merengue and the Bossa-Nova. Prerequisite: HPE 1128 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1134 Basic Course of American Square Dancing:** Upon completion of this course, students should be able to perform the first 50 of the basic fundamental movements of square dancing. The course stresses the importance of dancing well and emphasis is placed on smoothness in the dance. (0-3) 1

**HPE 1135 Extended Basic Course of American Square Dancing:** Upon completion of this course, students should be able to do the Couple Right Hand Star, Ladies' Chain Left and Right, Ocean Wave, Clover Leaf and other popular movements on this level. Prerequisite: HPE 1134 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1136 Advanced Basic Course of American Square Dancing:** Upon completion of this course, students should be able to do the Allemande "O," Spin the Top, Dixie Style Ocean Wave and other advanced basic steps. Prerequisite: HPE 1135 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1138 Clogging—Beginning:** Upon completion of this course, students should be able to demonstrate the basic techniques of clogging, dance routines used by clogging teams, and should demonstrate improved rhythm. (Self-Supporting)\* (0-3) 1

**HPE 1139 Intermediate Clogging:** Upon completion of this course, students should be able to perform all basic steps from Beginning Clogging; perform intermediate and advanced steps and develop and exhibit simple precision routines; perform intermediate Square Dance Routines; design their own routines from steps presented. Prerequisite: HPE 1138 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1140 Self Protection for Women:** Upon completion of this course, students should be able to identify various alternatives for women to use in case of personal attack, particularly stressing counter-attack for as many different situations as possible, based on simplified techniques of Kung Fu. They should be able to perform techniques to use in specific situations and performs various kicks, blocks, etc. (0-3) 1

**HPE 1141 Jogging:** Upon completion of this course, students should develop a short-term running/jogging program realistic for the individual; demonstrate improved stamina (using the Cooper 12 minute test at end-of-quarter); demonstrate each of the basic 6 stretching and conditioning exercises for the prevention of injury; demonstrate, on a written test, knowledge of benefits of running/jogging on mind and body. (0-3) 1

**HPE 1147 Tennis—Beginning:** Upon completion of this course, students should be able to: demonstrate elementary skills for ground strokes, serve, volley, smash and lob; to identify rules and strategy for singles and doubles. (0-3) 1

**HPE 1148 Tennis—Intermediate:** In this course, students continue development of playing skill, performing different

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shots and including game strategies. (Self-Supporting)\*

(0-3) 1

**HPE 1149 Tennis—Advanced:** Upon completion of this course, students should be able to perform advanced shots, spins, pace and strategy. Prerequisite: HPE 1148 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1150 Exercise for the Handicapped:** Upon completion of this course, students should be able to increase their level of fitness and demonstrate specific exercises relating to individual needs.

(0-3) 1

**HPE 1154 Tap Dancing—Beginning:** Upon completion of this course, students should be able to perform elemental constructions, motions and patterns in tap dancing. (Self-Supporting)\*

(0-3) 1

**HPE 1155 Tap Dancing—Intermediate:** Upon completion of this course, students should begin development of more complex patterns; self-choreography and extensive discipline are introduced. Students will begin individual style development. Prerequisite: HPE 1154 or equivalent. (Self-supporting)\*

(0-3) 1

**HPE 1156 Tap Dancing—Advanced:** Upon completion of this course, students should be able to demonstrate freedom of self-expression and style. Attention is given to detail in tap construction. Prerequisite: HPE 1155 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1157 Jazz Dance—Beginning:** Upon completion of this course, students will perform Jazz Dance art forms which connect to other art forms through observation, participation and commentary. (Self-Supporting)\*

(0-3) 1

**HPE 1158 Jazz Dance—Intermediate:** Upon completion of this course, students should utilize principles of jazz dance at the beginner level in developing self-disciplined standards in exercising, learning self-choreography and performance. Prerequisite: HPE 1157 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1159 Jazz Dance—Advanced:** Upon completion of this course, students should prepare independent programs for evaluation. Field trips will be scheduled to encourage civic awareness of dance. Prerequisite: HPE 1158 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1164 Yoga—Beginning:** Upon completion of this course, students should be able to demonstrate the basic principles of Yoga, including physical postures, proper breathing techniques, attitudes of positive thinking and confident self-awareness, and techniques to improve relaxation and mental concentration.

(0-3) 1

**HPE 1165 Yoga—Intermediate:** Upon completion of this course, students should be able to demonstrate more detail on physical postures, breathing, relaxation and mental concentration. Prerequisite: HPE 1164 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1166 Yoga—Advanced:** Upon completion of this course, students should be able to do advanced types of breathing and concentration using sounds, and demonstrate difficult physical postures. Prerequisite: HPE 1165 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1170 Aerobics:** Upon completion of this course, students should be able to demonstrate exercises for physical conditioning by use of movement with music. Students will participate in vigorous exercise for cardiovascular endurance and calisthenic exercise for toning and firming muscles.

(0-3) 1

**HPE 1174 Rock Climbing:** Upon completion of this course, students should be able to: explain the proper use of all basic rock climbing equipment; demonstrate all safety practices and procedures including belaying and knots; and demonstrate good technique in a basic top-rope climb and rappel of moderate difficulty.

(0-3) 1

**HPE 1175 Techniques of Lead Climbing:** For students to complete this advanced course, they must be able to: demonstrate strong and skillful technique in top-rope climbs and rappels of advanced levels; demonstrate secure placement of pieces of protection; explain and demonstrate all safety practices for advanced top-rope rock climbing. (Self-Supporting)\*

(0-3) 1

**HPE 1176 Introduction to Backpacking:** Upon completion of this course, students should be able to: identify the differences between high quality and poor quality backpacking equipment; identify proper conservation and ecological practices while in the woods; plan the meals for an overnight backpacking trip; demonstrate proper use of maps and compass.

(0-3) 1

**HPE 1177 Wilderness Skills:** To complete this course successfully, students must be able to: plan and conduct an overnight backpacking trip including selection of locations, trails, evacuation routes and meals; administer basic mountain first aid skills; select quality outdoor equipment for their personal use wisely. (Self-Supporting)\*

(0-3) 1

**HPE 1178 Horseback Riding—Beginning:** Upon completion of this course students should be able to demonstrate the fundamental skills and etiquette of riding. Instruction will include walking, trotting, cantering and jumping.

(0-3) 1

**HPE 1179 Horseback Riding—Advanced:** Upon completion of this course, students should have developed skills in the art of riding and handling horses such as: riding with double reins on pelham, using direct and indirect rein; working on saddle seat for form and equitation; riding and schooling a green horse. Prerequisite: HPE 1178 or equivalent. (Self-Supporting)\*

(0-3) 1

**HPE 1184 Swimming—Beginner:** For non-swimmers and beginners who need more confidence in the water, this course is based upon the American Red Cross programs of instruction. Upon successful completion of this course, students should be able to demonstrate back float, crawl stroke—20 yards, and safety skills.

(0-3) 1

**HPE 1185 Swimming—Advanced Beginner:** For the beginner who needs to increase skills for full confidence in deep water, this course is based on American Red Cross programs of instruction. Upon completion of this course, students should be able to demonstrate treading water, survival floating, elementary backstroke and crawl stroke. Prerequisite: HPE 1184 or equivalent.

(0-3) 1

**HPE 1186 Swimming—Intermediate:** This course is designed to perfect the four basic strokes: breast stroke, sidestroke, crawl stroke and back crawl. Upon completion of this course, students should be able to demonstrate scissors kick, breast stroke kick, and underwater swim. This course is based on the American Red Cross programs of instruction and is the prerequisite for the swimmer and/or Life Saving courses. Prerequisite: HPE 1185 or equivalent.

(0-3) 1

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**HPE 1187 Swimming—Swimmer:** For the swimmer who wants to perfect strokes leading to the American Red Cross Water Safety Instructor Certificate. Upon completion of this course, students should be able to: swim the breast stroke—100 yards; side stroke—100 yards; crawl stroke—100 yards; back crawl—100 yards; and swim 10 minutes. Prerequisite: HPE 1186. (0-3) 1

**HPE 1188 Swimming—Lifesaving:** This is a prerequisite course for the American Red Cross Water Safety Instructor Certificate—basic requirements for Life Guard Duty. Upon completion of this course, students should be able to demonstrate front and rear approaches, cross chest carry, and resuscitation. Prerequisite: HPE 1186. (0-3) 1

**HPE 1189 Water Safety Instructor:** This course is for students desiring to teach swimming and/or Life Saving and/or Life Guard Duty. Upon completion of this course, students should be able to demonstrate beginner skills, swimming strokes, and lifesaving skills. Prerequisite: HPE 1188. (0-3) 1

**HPE 1190 Introduction to Golf I:** Upon completion of this course, students should be able to demonstrate the grip, stance, body posture; use of the putter, 9 and 7 irons. (0-3) 1

**HPE 1191 Introduction to Golf II:** Upon completion of this course, students should be able to demonstrate the use of the mid- and long-irons and woods. They should be able to identify game rules and etiquette, and put skills to use on a Par 3 course. (0-3) 1

**HPE 1193 Slimnastics—Beginning:** Upon completion of this course, students should have a program of exercise in physical conditioning which should result in firming muscles, improving coordination and posture. They should be able to use presented information on correct exercises to perform. (0-3) 1

**HPE 1194 Slimnastics—Intermediate:** Upon completion of this course, students should be able to build on the exercises learned in HPE 1193. In addition, they should be able to explain the relationship between fitness and health as it relates to a person's life style, increased movement, and body contour. Prerequisite: HPE 1193 or equivalent. (0-3) 1

**HPE 1195 Slimnastics—Advanced:** Upon completion of this course, students should be able to: identify and perform specific exercises for various parts of the body; identify factors that motivate a person to learn and maintain an exercise program; design a personal exercise program based on individual lifestyles and needs; identify precautions to be considered in exercising. Prerequisite: HPE 1194 or equivalent. (0-3) 1

**HPE 1196 Gymnastics—Beginning:** Upon completion of this course, students should be able to: discuss gymnastic safety procedures; demonstrate a stretching and warm-up session for selected gymnastic apparatus; demonstrate basic moves in floor exercise, trampoline, unevens, parallel bars, beam and rings. (0-3) 1

**HPE 1197 Gymnastics—Intermediate:** To complete this course successfully, students must be able to: discuss and demonstrate stopping technique for beginning and intermediate skills on all pieces of equipment; demonstrate a beginning to intermediate level routine on selected pieces of apparatus; discuss the elements of a routine. (0-3) 1

**HPE 1198 Bowling—Begining:** 1 Upon completion of this course, students should be able to identify skills, rules and strategy, with an opportunity for participation at the bowling lanes. (0-3) 1

**HPE 1199 Bowling—Intermediate:** Upon completion of

this course, students should demonstrate types of thrown balls—hook, curve, etc.; understand lane etiquette, bowling terms, scorekeeping; practice spot bowling for spares, timing, and correcting individual faults. Prerequisite: HPE 1198 or equivalent. (Self-Supporting)\* (0-3) 1

**HPE 1214 Water Activities:** Upon completion of this course, students should be able to: demonstrate skill in specific aquatic and small craft activities; identify elements of a camp waterfront area and a community "learn to swim" program; identify safety precautions in water activities; list the principles of organizing an aquatic program and its operation and maintenance. (2-3) 3

**HPE 1404 Introduction to Recreation Service:** Upon completion of this course, students should be able to: identify the types of public and private agencies offering recreational services; describe the effects leisure time has upon society and the individual; describe the economic importance of recreation; identify the current concepts of recreation present and future trends. (3-3) 4

**HPE 1504 Relays and Games of Low Organization and Team Sports:** Upon completion of this course, students should be able to: identify the six types of relays; demonstrate and teach skills involved in self-testing activities, locomotor skills, team sports, relays involving equipment, obstacle relays and novelty relays; demonstrate and teach skills involved in specific team sports. (3-6) 5

**HPE 2100 Bicycling:** Upon completion of this course, students should be able to: select a bicycle suitable to their size and needs; repair and maintain a bicycle in its entirety; state the legal rights of a bicyclist; maneuver a bicycle safely around obstacles; ride a bicycle safely in traffic, know what equipment is necessary for a safe bicycle tour. (0-3) 1

**HPE 2112 Canoeing—Basic:** Upon completion of this course, students should be able to: demonstrate safe handling skills, self-rescue skills, and ways to apply the basic skills. They should be able to name the parts of a canoe and be able to perform the following strokes: bow, diagonal draw, pushover, sculling, reverse sculling, sweeps, reverse sweeps and J. Prerequisite: HPE 1184 or equivalent. (0-3) 1

**HPE 2113 Canoeing—Rivers:** Upon completion of this course, students should be able to perform the pry, draw, cross draw, rudder, backwater, and ferrying strokes on Class I rivers. Prerequisite: HPE 2112. (0-3) 1

**HPE 2114 Canoeing—Basic White Water:** Upon completion of this course, students should be able to demonstrate successful negotiation of basic Class II and III white water rivers, and be able to identify safety rules, select proper equipment, and perform specific strokes. Prerequisite: HPE 2113. (0-3) 1

**HPE 2200 Sports Officiating:** After completing this course, students should be able to: identify responsibilities of officiating; identify rules of the game; demonstrate good mechanics of officiating; demonstrate alertness, good judgment and decisiveness in calls; demonstrate poise; demonstrate consistency and good reaction time in calls. (1-3) 2

Upon completion of this course, students should be able to: list rules of specific individual activities such as archery, golf and  
*NOTE: Successfully completed HPE courses may not be repeated without division/department head approval.*

*\*Credit will be given for successful completion of a self-supporting course. However, no additional credit will be given for repeating the same course.*



tennis; demonstrate all skills involved in the activities; set up and organize a program in community involving individual activities; demonstrate techniques of teaching skills to others; evaluate effectiveness of program organized. (2-3) 3

**HPE 2315 Scheduling Events and Tournaments:** Upon completion of this course, students should be able to: set up specific types of tournament competitions; design and present an original special event project; demonstrate skill in organizing specific tournaments. (2-3) 3

**HPE 2325 Introduction to Outdoor Recreation:** Upon completion of this course, students should be able to: identify outdoor recreation resources; participate in on-site visits, and set up campsites; design a typical five-day program for a particular population group; be able to utilize specific mountaineering techniques. (2-3) 3

**HPE 2424 Program Planning and Organization:** After completing this course, students should be able to: plan and organize a recreation program; identify those factors to consider in program planning—example: age, sex, skill; select appropriate facilities and equipment for program; prepare records and reports associated with program; demonstrate evaluation methods for program plan. (3-3) 4

**HPE 2434 Recreation and Special Populations:** Upon completion of this course, students should be able to: identify recreation services already available to special populations; list principles of recreation programming; identify and describe specific health problems—their causes, signs and symptoms; design a plan for selected groups. (3-3) 4

**HPE 2445 Principles of Physical Fitness:** Upon completion of this course, students should be able to: administer and interpret specific fitness tests; define components of fitness; write and organize a body mechanics and fitness program for a group of people; identify physical effects of specific types of exercise; list preventive aspects of fitness and coronary heart disease; describe a weight reduction plan as it relates to exercise and calories; demonstrate skill in use of weight training equipment. (3-3) 4

## Health Record Clerk

**HRC 5200 Professional Interactions and the Health Worker:** Upon completion of this course, students should be able to: discuss skills needed to establish rapport between health worker and patient as well as co-worker; list the effects that behavior of the health worker may have on the well being of the patient; discuss the goal of the health care institution with relationship to the community, the health professional and the patient. (2-0-0) 2

**HRC 5200 Orientation to Health Record Clerk:** At the completion of this course, students should be able to: describe the structure and functions of the different types of medical facilities; discuss the job description of personnel who work with the health record; identify the qualifications required of a health record clerk; demonstrate good interpersonal relationships in given situations. (2-0-0) 2

**HRC 5400 Receptionists Skills:** At the completion of this course, students should be able to: perform the receptionist duties and assume the responsibilities of this position in a medical facility; explain various types of medical insurance and complete insurance claim forms correctly for each. Prerequisite: HRC 5300. (2-4-0) 4

**HRC 5401 Unit Clerk Procedures:** At the completion of this course, students should be able to perform the clerking tasks that are routinely done on the nursing unit of a medical facility. Prerequisites: HRC 5300 and MED 3304. (2-4-0) 4

## Hotel/Restaurant Management

**HRM 3300 Introduction to Hotel/Restaurant Management:** Upon completion of this course, students should be able to: compare the present-day operations of inns and restaurants to those of the past; define the different types of restaurant and food services; identify the positions within hotels and restaurants; compare the departments within a hotel and restaurant; distinguish between franchise and individually owned properties; assess future opportunity in a challenging and rewarding career with the hospitality industry. (3-0) 3

**HRM 3301 Financial and Legal Aspects of Innkeeping:** Upon completion of this course, students should be able to: assemble and organize a system to prevent law suits and losses costly to today's inns; relate local, state and federal regulations to operations of a modern inn; describe different instruments of finance that are used in the operation of a modern inn. (3-0) 3

**HRM 3104 Speaker Seminar I:** Upon completion of this course, students should have been exposed to the day-to-day tasks of managing a hotel or restaurant through guest speakers and will become acquainted with the problems and solutions experienced speakers will share with them. (1-0) 1

**HRM 4200 Individual Study:** Students will conduct career related projects as described in the training plan. The training plan, designed to meet needs not met by other offerings, will be developed by the program director and an appropriate training sponsor in the business community. Each student will work under the direct supervision of the program director. Approval of the sponsor, division head and appropriate vice president is required. TBA

**HRM 4300 Hotel/Restaurant Marketing:** Upon completion of this course, students will be able to: organize a marketing schedule for future use; assemble positive sales ideas; prepare property and market analysis; prepare a sales forecast; develop a sales promotion for a particular property. (3-0) 3

**HRM 4301 Housekeeping Procedures:** Upon completion of this course, students should have demonstrated the ability to: plan an organized area for the housekeeping department; implement a time study and procedures standard for cleaning a motel room; identify hazards in a motel; develop standards and procedures for purchasing and inventory controls; implement procedures for the reporting of repairs and preventive maintenance needs. (3-0) 3

**HRM 4302 Hotel/Restaurant Management Related Problems:** Upon completion of this course, students should be able to: compare circumstances of hotel/restaurant operations to everyday work situations; institute a workable plan to control and maintain good employee morale; write and identify standards of dress and conduct. Through role playing and analysis, students will become familiar with actual situations which will be encountered in future employment. (3-0) 3

**HRM 4504 Hotel/Restaurant Management Practicum I:**

Upon completion of this course, students should be able to exhibit positive work attitudes and write job descriptions for the departments within the hotels/motels assigned during clinical experience. Lab or clinical experience will consist of on-the-job training within the following areas: Housekeeping, Superintendent of Transportation and Services, Maintenance and Front Office. (3-20) 5

**HRM 4505 Hotel/Restaurant Management Practicum II:** A continuation of Work Experience Seminar I with continued emphasis on work attitudes and job descriptions. Students will be assigned to the restaurant of a hotel/motel and will cover the following areas: Dishwashing Department, Salad Department, Cook's Helper, Chef's Helper, Chef's Assistant, Dining Room-Busboy, Dining Room-Waiter/Waitress, and Bar/Lounge Bartender. (3-20) 5

**HRM 4506 Hotel/Restaurant Management Practicum III:** A continuation of Work Experience Seminar II. Emphasis in this course will be placed on students becoming familiar with the following areas: Accounting-Auditors Office, Credit Department, Personnel Department and General Manager. Students will be assigned to hotels/motels within the Charlotte area to complete their clinical experience. A week of analysis and evaluation is included to assist the graduate in ascertaining job opportunities in the hospitality industry. (3-20) 5

## Human Services

**HSA 3120 Guidance and Discipline:** Upon completion of this course, students should be able to: define a personal philosophy of guidance and discipline; describe the relationship between appropriate teacher behaviors and acceptable child behaviors; describe several constructive teacher strategies which foster the development of a positive self-concept in children; describe several constructive teacher strategies which foster the development of self-control in children; identify several indirect guidance techniques. (1-0-0) 1

**HSA 3202 Crisis Intervention:** Upon completion of this course, students should be able to: identify and discuss the emotional and physical bases of stress/anxiety; identify and define real-life crises of: alcohol and drug abuse, bereavement, suicide, grief and loss, individual and group psychiatric emergencies, and special problems; identify and discuss the major factors and characteristics of a disaster and community crisis to include: psychological shock, disaster syndrome, variation of victim reaction, and psychological epidemic; identify appropriate methods of crisis intervention; demonstrate appropriate skills of crisis intervention. (2-0-0) 2

**HSA 3306 Linguistics of Interpreting:** Upon completion of this course, students should be able to: identify and define processes of interpreting and related terms; identify and demonstrate exercises that improve skills in the various processes of interpreting; identify and interpret the meaning of various visual and auditory stimuli; critique their own skills, identifying areas of weakness and matching them with exercises to help improve those areas. (3-0-0) 3

**HSA 3310 The Exceptional Child:** Upon completion of this course, students should be able to: identify and discuss characteristics of developmental exceptionalities; identify community and state resources available for families with exceptional children; identify a variety of activities appropriate for children who are exceptional in personality and/or physical development; identify ways exceptional children use materials, supplies, and equipment differently from other children; identify

techniques of working with parents to help lessen their apprehensions about their child's condition; define the procedures for referring a child to special services. (3-0-0) 3

**HSA 3311 Materials and Activities for the Young Child:** Upon completion of this course, students should be able to: describe the role of play and play materials in the development of the young child; describe the teacher's role in fostering and guiding children's creative ability; identify raw art materials, their potential and use with the young child; identify the principles and practices of music, movement, sound and rhythm for the young child; identify the process of language development through the use of children's books, story-telling, dramatization; identify appropriate science and math experiences and materials; identify and discuss techniques for implementing a stimulating outdoor learning environment; describe and discuss importance of manipulative toys and blocks in the development of the young child. (3-0-0) 3

**HSA 3312 Education for Young Child:** Upon completion of this course, students should be able to: identify recent trends affecting early childhood education, i.e., research political and sociological factors; identify and discuss four educational models for young children; describe and discuss the role of teacher, child, and environment in four educational models; identify and describe one's own philosophy of education. (3-0-0) 3

**HSA 3322 Human Sexuality in the Helping Skills:** Upon completion of this course, students should be able to: demonstrate effective skills in a helping situation concerning sexuality; identify major sexual behaviors and needs found within each client group; list the psychological and sociological factors culminating in variations of sex role behaviors in males and females, i.e., masculine role and behavior, feminine role and behavior; demonstrate self awareness and personal growth by formulating a philosophy of interpersonal sexuality applicable to the student's work situation. (3-0-0) 3

**HSA 3323 Legal Aspects of Social Welfare:** Upon completion of this course, students should be able to: describe and explain the Protective Service Law for children and adults and list responsibilities and limitations which affect social workers; list the steps of preparation of records and information gathering for use in court; explain the admissibility of evidence; describe the role of the social worker as a witness; explain the custody rights of children, the rights of parents and the rights of the agency; explain and describe the adoption laws of the State of North Carolina, the validity of the state law, and the rights of the unwed father; discuss the responsibility of paternity; discuss involuntary commitments: legal base, purposes, and the social worker's responsibilities and limitations as guardians and trustees. (3-0-0) 3

**HSA 3324 Conversational Sign Language I:** Upon completion of this course, students should be able to: converse on a one-to-one basis with a hearing-impaired individual in a work or social environment; demonstrate a basic knowledge of techniques which make communicating with a hearing-impaired person more effective; demonstrate a practical sign vocabulary of core and specialized signs of between 300-350 words. (3-0-0) 3

**HSA 3325 Conversational Sign Language II:** Upon completion of this course, students should be able to: converse with a hearing-impaired individual in a work, school, home, business, and social environment; demonstrate an advanced knowledge of communication techniques; demonstrate a practical sign vocabulary of core and specialized signs of between 500-750 words; demonstrate receptive and expressive fingerspelling and



numbers skills. Prerequisite: HSA 3324.

(3-0-0) 3

**HSA 3340 Client Group Dynamics:** Upon completion of this course, students should be able to: demonstrate their own style of group leadership in working with client groups; identify various behavioral roles of clients within groups; demonstrate methods of motivating clients and resolving conflicts within client group interactions. Prerequisite: HSA 3501, HSA 3502, or consent of program director.

(3-0-0) 3

**HSA 3341 Interpersonal Relationships II:** Upon completion of this course, students should be able to: distinguish between assertive, passive and aggressive behaviors; develop their own assertive skills and demonstrate the use of these skills in professional and personal behavior. Prerequisite: HSA 3501, HSA 3502, or consent of program director.

(3-0-0) 3

**HSA 3350 Growth and Development of Mothers and Fathers:** Upon completion of this course, students should be able to: identify social factors and changes affecting modern parenthood; discuss parental expectations and roles and needs; describe changing roles of parents, related to changing characteristics of children at various developmental stages; identify and discuss specific concerns of parents.

(3-0-0) 3

**HSA 3360 Understanding Adolescence:** Upon completion of this course, students should be able to: differentiate major developmental characteristics associated with pre-adolescence, early adolescence, late adolescence changes; identify and describe specific characteristics of the adolescent in the areas of physical, cognitive, social, emotional and moral development; identify and discuss the inter-relationship between the social, emotional, cognitive and physical development of the adolescent; identify and describe social and familial factors which prevent and encourage maximum growth and development of the adolescent.

(3-0-0) 3

**HSA 3370 Practical Problems in Family Living:** Upon completion of this course, students should be able to: identify and discuss characteristics of the child at different stages in areas of social, cognitive, emotional, language, moral and physical development; identify and differentiate the child's normal developmental behaviors from problem behaviors and describe helpful parental responses to these behaviors; identify and discuss parenting behaviors and techniques that prevent and encourage optimal growth and development of the child; discuss positive parental behaviors in specific family situations—sibling rivalry, new baby, family crises, etc.

(3-0-0) 3

**HSA 3380 The Growing Child:** Upon completion of this course, students should be able to identify basic principles underlying human growth and developmental stages and critical periods during prenatal development, developmental needs and characteristics of the infant, toddler and pre-school child.

(3-0-0) 3

**HSA 3402 Sign Language I:** Upon completion of this course, students should be able to: demonstrate communication skills on a non-technical level with members of the deaf population in both expressive and receptive American Sign Language; interact with deaf persons on a one-to-one basis; demonstrate an awareness and relate to the difficulties of a deaf person growing up in a hearing society; demonstrate a practical sign vocabulary of between 300-375 words.

(3-2-0) 4

**HSA 3404 Sign Language II:** Upon completion of this course, students should be able to demonstrate: accuracy and clarity in fingerspelling with an average of better than 75% on both expressive and receptive tests; a practical sign vocabulary of between 500-750 words; the ability to discuss the psycho-

logical implications of deafness; the ability to discuss the various sign systems; a working competence with prefixes and suffixes as shown in written tests and expressive translations with an average of better than 75%. Prerequisite: HSA 3402, Sign Language, or instructor consent.

(3-2-0) 4

**HSA 3405 Interpreting Idioms:** Upon successful completion of this course, students will demonstrate: a working competence with approximately 200 basic sign language idioms as shown in both written tests and expressive signing with an average of better than 75%; a working competence with approximately 200 English idioms as shown in both written tests and expressive signing with an average of better than 75%; the ability to discuss the sociological implications of deafness. Prerequisite: HSA 3402 or instructor consent.

(3-2-0) 3

**HSA 3410 Community Interpreting:** Upon completion of this course, students should be able to: master 350 new sign vocabulary terms associated with legal, medical, social services and related situations, and demonstrate with 75% accuracy; upgrade their ability to interpret from English to ASL and ASL to English with 75% accuracy; identify techniques associated with community interpreting with 75% accuracy; demonstrate ethical behavior during simulated interpreting situations with 75% accuracy. Prerequisite: Quality Assurance Level I or instructor consent.

(3-2-0) 4

**HSA 3414 Helping Relationship, Advanced Technique:** Upon completion of this course, students should be able to: identify and distinguish appropriate responses in the initial and continuous helping relationships, to include helper assertiveness and client motivation; discuss the force-field analysis of problem solving, to include: identifying and clarifying the client's problems and establishing the client's priorities, establishing client's goals and implementing tasks, reviewing and evaluating the client's progress; demonstrate a more effective skill of helping by the use of: feeling discrimination, concreteness, confrontation and alternative action, decision making and problem solving. Prerequisite: HSA 3604.

(3-0-3) 4

**HSA 3415 Helping Relationship: Management Skills:** Upon completion of this course, students should be able to: identify and describe factors for successful time management and organization within a helping agency; identify and discuss ethical standards of a helping relationship; identify and describe factors for successful time management and organization within a helping agency; identify and discuss ethical standards of a helping relationship; identify and discuss methods for selecting, supervising, and evaluating staff members, to include: appropriate assertiveness skills and instructing and motivating skills; demonstrate appropriate skills of assertiveness, instruction, motivation and supervision. Prerequisite: HSA 3604 and HSA 3414.

(3-0-3) 4

**HSA 3421 Helping and Behavioral Stress:** Upon completion of this course, students should be able to: identify and discuss the major factors of behavioral and physical development relating to stress/anxiety; identify and define positive and negative factors of stress and identify methods for defining and coping with individual anxiety; identify and define real-life crises of: alcohol and drug abuse, suicide, bereavement, grief and loss, maturation, the family, and individual psychiatric emergencies; define and discuss the association to crisis/stress of: anxiety, defense mechanisms, values and belief systems, needs, and cultural and environmental influences; identify and discuss the major factors and characteristics of a disaster and community crisis, to include: psychological shock, disaster syndrome,

variation of victim reaction, and psychological epidemic; identify methods of psychological helping for persons in crisis and appropriateness of such crisis intervention to specific behavioral problems; demonstrate skills of coping with individual anxiety/stress and of helping a stress victim(s), both in non-verbal and verbal response; identify various local agencies dealing with crisis and discuss their function and methods of referral and treatment. (4-0-0) 4

**HSA 3501 Introduction to HSA:** Upon completion of this course, students should be able to: describe the Human Services program, including the three option areas; give the four core courses, describe their content and explain the rationale for inclusion as core courses; given an option area, name at least three agencies related to it and describe the type of clients referred to these agencies; describe correctly the procedure for being advised and contracting for field placement; identify the following specific major client groups and the various stresses caused by social, emotional, and physical characteristics associated with each group: Mental Health, Emotionally Disturbed, Alcoholism, Drug Abuse, Sexuality, Mental Retardation and Brain Damage, Epilepsy, Learning Disabilities, Visual Impairment, Hearing and Speech Impairment, Physical Disabilities, Aging; identify specific agencies which offer services to the above client groups. Prerequisite: permission of program director only. (5-0-0) 5

**HSA 3502 Interpersonal Relationships I:** Upon completion of this course, students should be able to: demonstrate five skills of non-verbal communications; demonstrate five skills of verbal communications; identify and list at least three personal strengths and three weaknesses in relationships with others; identify five personal values; identify four personal behavioral goals; demonstrate ability to change two identified negative behaviors and develop two identified positive behaviors; list and describe Maslow's Hierarchy of Needs; list Erickson's eight stages of development; list and describe Powell's five levels of communication; identify and describe five games people play and the defense mechanism involved in each. Prerequisite: HSA 3501 or consent of program director. (5-0-0) 5

**HSA 3503 Introduction to Day Care Administration:** Upon completion of this course, students should be able to: describe the steps involved in setting up child care programs according to state and federal guidelines; describe the management practices required in quality child care programs including fiscal budgets, records, ordering of supplies, equipment, scheduling, operational policies; describe personnel practices required in quality child care programs, including job descriptions, interviewing techniques, staff evaluations, staff development; describe parent and community resources available to child care centers. Prerequisite: program director approval. (3-0-6) 5

**HSA 3510 School Age Child Care:** Upon completion of this course, students should be able to: describe the growth and development of the school aged child, with emphasis on the middle and late childhood years; identify the physical, social, emotional, and intellectual needs of the school aged child; describe the principles underlying an after-school care program; plan particular segments of a program for the school aged child; implement particular segments of a program for the school-aged child. Prerequisite: program director consent. (3-0-6) 5

**HSA 3511 Infant and Toddler Development:** Upon completion of this course, students should be able to: describe the normal growth and development of the infant; identify the needs of the developing infant; describe the normal growth and development of the toddler; identify the needs of the developing

toddler; list and discuss the principles underlying a program for infants and toddlers; plan particular segments of a program for infants and toddlers; implement particular segments of a program for infants and toddlers. Prerequisite: program director consent. (3-0-6) 5

**HSA 3514 Introduction to Interpreting:** Upon completion of this course, students should be able to: demonstrate expressive interpreting and translating skills; define and demonstrate ethical demeanor of professional interpreting. Mock interpreting experiences will be provided. Prerequisite: HSA 3404 or instructor consent. (2-6-0) 5

**HSA 3515 Interpreting II:** Upon completion of this course, students should be able to demonstrate: accuracy and clarity in expressive interpreting and translating at a speed of 80-100 WPM; a receptive ability in understanding intent and content in the signed message of a deaf speaker at a rate of 60-74%; through role play, actual experience, and written tests, a practical awareness of interpreting in V.R., community agencies, and interview situations; the responsibilities of the interpreter; the appropriate physical setting; the special vocabulary, ethics; through role play and actual experience, a practical awareness of oral interpreting and blind/deaf interpreting; expressive and receptive fingerspelling at an intermediate (60-80%) level as indicated by skills tests. Prerequisite: HSA 3514 or instructor consent. (2-6-0) 5

**HSA 3516 Interpreting III:** Upon successful completion of this course, students should be able to demonstrate: accuracy and clarity in expressive interpreting and translating at a speed of 100-125 words per minute; a receptive ability in understanding the intent of deaf signers at a rate of 75-100%; through role play, actual experience, and written tests, a practical awareness of interpreting in educational, medical, and platform situations; receptive and expressive fingerspelling clarity and accuracy as indicated by skills test. Prerequisite: HSA 3515 or instructor consent. (2-6-0) 5

**HSA 3517 Sign to Voice Interpreting:** Upon completion of this course, students should be able to demonstrate: a receptive ability to communicate the appropriate content and intent of deaf signers into correctly spoken English at a level of 60-74%; a receptive ability to communicate the appropriate mood, sign inflection, and emotional intent of deaf signers into vocally expressive English at a level of 60-74%; through role play and written tests, a practical awareness of the R.I.D. Code of Ethics as it pertains to reverse interpreting; awareness of the principles of lip reading and how those principles aid in reverse interpreting, as indicated by skills tests; a receptive ability to communicate fingerspelled words into spoken English at a level of 64-74%; awareness of the appropriate situation to reverse interpret or reverse translate into good spoken English as indicated by skills tests. Prerequisite: HSA 3515 or instructor consent. (2-6-0) 5

**HSA 3525 Advanced Materials and Activities for the Young Child:** Upon completion of this course, students should be able to: expand on the basic file box of activities begun in HSA 3311, which will include at least: 20 art activities, 20 songs and 20 other musical activities, titles and summaries of 20 appropriate books for young children, 20 finger plays and 20 other language-related activities, 20 appropriate science activities, 20 appropriate math activities, 10 outdoor experiences that will expand the young child's learning, 10 suggestions for stimulating play in the block corner, 10 suggestions for teacher-made manipulative materials; demonstrate the understanding of activities appropriate for different developmental levels (through the activities selected for the file box); plan, organize and carry



out a teaching unit which will include all of the stated areas; demonstrate the knowledge of the teacher's role in fostering and guiding children's creative ability; demonstrate the capacity to foster and guide young children's creative ability. Prerequisite: HSA 3311 or permission of program director. (5-0-0) 5

**HSA 3534 Advanced Day Care Administration:** Upon completion of this course, students should be able to: apply time management skills in performing administrative tasks in the operation of a day care center; identify and demonstrate appropriate communication techniques, i.e., "I" messages, "affective listening," in the performance of administrative tasks in day care centers; identify and describe special skills for building staff morale in day care, i.e., positive interpersonal relations, group process; assess and revise documents used in day care operations, i.e., personnel policies, parent handbook, job descriptions, budgets; describe and discuss the legal aspects of day care operations; identify short and long range personal professional goals in the area of day care operations. Prerequisite: HSA 3503 or instructor consent. (3-0-6) 5

**HSA 3600 Community Organization and Casework Preparation:** Upon completion of this course, students should be able to: identify and define a Human Service paraprofessional; identify and describe roles and correlated activities that an HSA worker might play in social change in a local neighborhood or community; identify and describe the philosophies, measures, and procedures used in vocational and social rehabilitation of the physically and mentally disabled; identify and describe the scientific method of problem solving; identify the members of the professional teams used in human services agencies and describe their backgrounds and functions; identify the major organizational structure of human resources at federal, state and local levels, to include functions and practices; identify and describe strengths and weaknesses of current delivery systems; observe behavior and record significant observations in simple descriptive form. Prerequisite: HSA 3340 and HSA 3341. (3-0-9) 6

**HSA 3604 Helping Relationship—Technique:** Upon completion of this course, students should be able to: discuss the Model of Facilitation, identifying the levels of a helping relationship and their characteristics as found in the Model; identify non-verbal communication behaviors of time, body and vocal media and discuss their effect in the helping relationship; identify closed and open questions and discuss their use in the helping relationship; identify and distinguish appropriate and inappropriate responses and leads; demonstrate effective use of appropriate responses and leads. Prerequisite: HSA 3600 or permission of program director. (3-0-9) 6

**HSA 3800 Legal Interpreting:** Upon completion of this course, students should be able to: demonstrate the mastery of appropriate definitions for 350 commonly-used legal terms; demonstrate the mastery of appropriate sign combinations for 350 commonly-used legal terms; generate, both written and verbal, appropriate legal terms when given a definition of 350 commonly-used legal terms; voice interpret a series of legal stories presented in ASL with 75% accuracy; sign interpret a series of legal stories in ASL with 75% accuracy; describe, both in written and verbal form, the various contexts with which a legal interpreter could be associated; apply appropriate ethical behavior (as defined by the RID Code of Ethics) to a series of situations in which a legal interpreter could be involved with 75% accuracy; apply knowledge about deafness to a variety of situations where an interpreter could be requested to supply information; describe, both in written and verbal form, the principles for serving as an advocate within the political pro-

cess; discuss and apply a series of principles of protocol related to legal interpreting. Prerequisite: Comprehensive Skills Certificate from the Registry of Interpreters for the Deaf, Inc. (6-4-0) 8

**HSA 4100 Curriculum for the Young Child:** Upon completion of this course, students should be able to: identify the basic educational concepts in one or more of the following curriculum areas: math, science, social studies, language arts, music, art, and physical education; describe and discuss positive techniques or planned learning activities to meet the developmental needs of the young child; describe and discuss the role and responsibility of the teacher of the young child; describe and discuss positive teaching techniques that foster a child's growth and development. (1-0-0) 1

**HSA 4101 Child Growth and Development:** Upon completion of this course, students should be able to: identify and describe the stages of development in the young child and the various characteristics associated with a specific age group; describe and discuss the family's role as the primary care-giver and resource in the young child's development; identify what is appropriate behavior and identify techniques which will prevent inappropriate behavior. (1-0-0) 1

**HSA 4102 Organizing the Classroom Environment:** Upon completion of this course, students should be able to: identify the supplies and equipment that constitute a positive learning environment for young children; demonstrate ability to organize and arrange a classroom environment to enhance a child's physical, intellectual, social and emotional ability (i.e., rearrangement of models, diagrams, etc.); describe and discuss the components of a safe and healthy classroom environment for the young child. (1-0-0) 1

**HSA 4103 Stress Management:** Upon completion of this course, students should be able to: define stress as it occurs in both personal and professional situations; identify methods for assessing stress and for managing stressful situations; evaluate individual stress and coping patterns. (1-0-0) 1

**HSA 4300 Hearing and Deafness:** Upon successful completion of this course, students should be able to: relate the nature and perception of sound to the sense of hearing; identify the major parts of the ear and the function of each part; classify hearing losses according to auditory dysfunctioning; describe some common causes of deafness; identify various medical/surgical treatments of hearing losses; identify the roles of the various professionals and paraprofessionals involved in the diagnosis and treatment of hearing losses. (3-0-0) 3

**HSA 4301 Helping Relationship—Theory:** Upon completion of this course, students should be able to: identify documents in a case file and basic forms used in various agencies; write an objective observation of a specific client correctly; identify facilitative methods of questioning in a helping situation; identify various non-verbal cues in communication; use the basic principles of reinforcement, modeling and extinguishing; identify the basic principles of various techniques used in helping. (3-0-0) 3

**HSA 4304 Orientation to Deafness:** Upon completion of this course, students should be able to: trace the changing attitudes toward and treatment of the deaf in Europe and America from 300 B.C. to the 20th Century; compare and contrast the mental development, emotional adjustment, and social maturity of hearing-impaired and hearing individuals; demonstrate and evaluate various communication methods used in the education of the deaf. (3-0-0) 3

**HSA 4310 Adult/Child Relations:** Upon successful completion of this course, students should be able to: identify principles underlying the development of a positive self-concept in young children; identify and demonstrate effective listening skills, i.e., active listening, essential to positive one-to-one interaction and positive small group interaction with young children; identify and demonstrate effective listening and communication skills essential to positive (job related) interaction with parents and staff in a variety of situations. (3-0-0) 3

**HSA 4390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval by the sponsor and division head is required. (3-0-0) 3

**HSA 4500 Working with Parents:** Upon completion of this course, students should be able to: discuss the importance of the caregiver establishing and maintaining a positive relationship with parents; demonstrate positive relationships with parents by daily contact and occasional conferences to facilitate the free flow of information about the children's lives inside and outside the center; demonstrate techniques of interaction with parents (i.e., parent conferences, parent group meetings, newsletter) which will facilitate increased understanding of children; identify and discuss values that could exist among families participating in a child care center; plan and work with a family to develop consistent responses to the child's behavior and common goals in education; identify the strengths and talents of parents as they may contribute to the development of their own children, and demonstrate, by invitations to parents, every possible opportunity to participate and enrich the group program, i.e., classroom visits, trips into the community; discuss ways to promote positive parental self-concept. Prerequisite: program director or instructor approval. (3-0-6) 5

**HSA 4510 Health and Safety of the Younger Child:** Upon successful completion of this course, students should be able to: identify at least four general physical characteristics and needs of the young child at different period of maturation—infancy, toddlerhood, early childhood years; identify at least four specific influences of nutrition on the young child's total development; identify principles of nutrition and demonstrate the ability to apply these principles in school and home, by the student's completed plans for one week of nutritionally-sound menus for meals and snacks appropriate for young children; describe and be familiar with basic health care and practices for the young child and the family (e.g., periodic physical check-ups, immunization routines, dental care, healthful routines of daily life); identify and describe at least five common illnesses and diseases of the young child; identify and describe at least four specific first aid skills of possible use in school situations; identify and describe the control of at least five factors contributing to a safe and healthful environment for young children. Prerequisite: program director approval. (4-0-3) 5

**HSA 4511 Introduction to Social Welfare:** Upon completion of this course, students should be able to: define social welfare and its relationship to social work in the United States; discuss the social, historical, and political development of the American Social Welfare System and its institutions; identify and discuss recent trends in social welfare, including the identification of current legislation (laws, bills) affecting the system; discuss the basic characteristics of American society which contribute to the breakdown of individual and family self-care; discuss the condition and extent of poverty in the United States

today and current programs, both in operation and proposed, aimed at the alleviation of poverty and related social conditions. (5-0-0) 5

**HSA 4524 Helping Interview I:** Upon completion of this course, students should be able to: demonstrate self-awareness and identify the concepts of worker-client interaction through value clarification of the agency/program clientele, and the helping process; identify and demonstrate good attending skills and the use of appropriate questions to elicit information; identify and demonstrate the stages of a helping interview; identify and demonstrate skills of listening, feedback, and feeling discrimination toward the client; identify methods of client referral to other services and/or agencies. (2-0-9) 5

**HSA 4525 Helping Interview II:** Upon completion of this course, students should be able to: demonstrate a refinement of basic interviewing techniques to include conflict resolution; identify and demonstrate skills of assertiveness and appropriate confrontation; identify methods of appropriate time management to include setting priorities and implementation of techniques. Prerequisite: HSA 4524. (2-0-9) 5

**HSA 4608 Seminar:** Upon completion of this course, students should be able to: discuss thoroughly the work experience in the student's specialty area; discuss the procedures, treatment methods and service techniques on the agency where the student interns; complete an in-depth research project as a major contribution to the student's Human Service program selected in consultation with the instructor; maintain fifteen hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship. Prerequisite: By permission of program director only. (1-0-15) 6

**HSA 4614 Practical Problems of Child Care II:** Upon completion of this course, students should be able to: identify and describe the principles underlying a pre-school program which supports the developmental needs of the whole child; describe and implement effective techniques in observing and assessing the developmental needs of young children, i.e., anecdotal records, Koontz Child Developmental Program; describe and implement effective techniques in evaluating pre-school environments in relation to the developmental needs of young children, i.e., classroom assessment tool, teacher assessment tool; plan segments of a daily program for a group of young children; implement segments of a planned daily program for a group of young children. Prerequisite HSA 5500. (2-0-12) 6

**HSA 5200 Human Relations:** Upon completion of this course, students should be able to: demonstrate self awareness and personal growth by listing five or more new things that they have learned about themselves and five or more ways in which they have changed; identify at least five of the things in life they value; demonstrate skills for effective communication with others, such as listening, empathy; list ten defense mechanisms and discuss the ones each student uses; list five or more goals and decisions they have made during the course; discuss at least five ways to put into practice on a future job some of the human relations skills learned during the course. (2-0-0) 2

**HSA 5302 Interpersonal and Helping Skills in the Professional Community:** Upon completion of this course, students should be able to: identify and discuss the role of the helping person within the professional community; describe the relationships of individuals in the professional community and the expectations of self, of the work situation, and of the public; identify and discuss interpersonal and helping skills as related to: values, defense mechanisms, stress management, agency and public conflict, and professional competencies; identify appropriate methods and demonstrate skills of communicating with



others, with emphasis on relating to staff and clientele in the professional community. Skills include: non-verbal communication, interviewing, problem-identification, problem-solving, assertiveness, decision-making, goal-setting, and telephone communication. (3-0-0) 3

**HSA 5500 Practical Problems of Child Care I:** Upon completion of this course, students should be able to: demonstrate effective techniques for working with children, i.e., showing respect for children as individuals with unique growth patterns and the ability to approach each child as a person of worth; identify the various roles of the teacher as a facilitator of learning, as a model for children, and as a guide of children, using both direct and indirect techniques; demonstrate effective techniques to use when developing satisfactory patterns of interacting with parents and staff; describe the curriculum for young children and identify the experiences, media, and facilities which promote optimal development and self-discipline (self-knowledge). Prerequisite or corequisite: HSA 5501. (3-0-6) 5

**HSA 5501 Child Development:** Upon completion of this course, students should be able to: identify the stages of the young child's development; identify and discuss the interrelationship between the social, cognitive, emotional and physical development of the child; identify and describe factors which prevent and encourage maximum growth and development of the child; identify and describe the characteristics of the child at different stages in the areas of social, cognitive, emotional, language, moral and physical development; discuss the importance of play to the child's total development. Prerequisite: program director or instructor approval. (3-0-6) 5

**HSA5510 Practical Lab I—Setting Up and Maintaining a Healthy Learning Environment:** Upon completion of the practical lab experience, students should be able to: organize space into functional areas recognizable by the children, e.g., block building, library, dramatic play, etc.; maintain a planned arrangement for furniture, equipment and materials, and for large and small motor skills learning, and for play materials that are understandable to the children; organize the classroom so that it is possible for the children to be appropriately responsible for care of belongings and materials; arrange the setting to allow for active movement as well as quiet engagement; take preventive measures against hazards to physical safety; keep light, air and heat conditions at best possible levels; establish a planned sequence of active and quiet periods, of balanced indoor and outdoor activities; provide for flexibility of planned arrangement of space and schedule to adjust to special circumstances and needs of a particular group of children or make use of special education opportunities; recognize unusual behavior or symptoms which may indicate a need for health care. (3-0-21) 5

**HSA 5511 CDA Practical Lab II—Advancing Physical and Intellectual Competence:** Upon completion of this course, students should be able to: use the kind of materials, activities and experience that encourage exploring, experimenting, questioning, that help children fulfill curiosity, gain mastery, and progress toward higher levels of achievement; recognize and provide for the young child's basic impulses to explore the physical environment and master the problems that require skillful body coordination; increase knowledge of things in their world by stimulating observation and providing for manipulative-constructive activities; to use a variety of techniques for advancing language comprehension and usage in an atmosphere that encourages free verbal communication among children and between children and adults; assist the child to work gradually toward recognition of the symbols for designating words and numbers; promote cognitive power by stimulating

children to organize their experience (as it occurs incidentally or pre-planned for them) in terms of relationships and conceptual dimensions; classes of objects, similarities and differences, comparative size, amount, degree; orientation in time and space, growth and decay, origins, family kinship, causality; provide varied opportunities for children's active participation, independent choices, experimentation and problem-solving within the context of structured, organized setting and program; to balance unstructured materials such as paint, clay, blocks with structured materials that require specific procedures and skills, and to balance the use of techniques that invite exploration and independent discovery with techniques that demonstrate and instruct; stimulate focused activities; observing, attending, initiating, carrying through, raising questions, searching answers and solutions for the real problems that are encountered and reviewing the outcomes of experience; to support expressive activities by providing a variety of creative art media and allowing children freedom to symbolize in their own terms without imposition of standards of realistic representation; to utilize support and develop the play impulse, in its varied symbolic and dramatic forms, as an essential component of the program; giving time, space, necessary materials and guidance in accord with its importance for deepening and clarifying thought and feeling in early childhood. (3-0-21) 5

**HSA 5512 CDA Practical Lab III—Building Positive Self Concept and Individual Strength:** Upon completion of this practical lab experience, students should be able to: provide an environment of acceptance in which the child can grow toward a sense of positive identity as a boy/girl, as a member of the family and ethnic group, as a competent individual with a place in the child community; give direct, realistic affirmation to the child's advancing skills, growing initiative and responsibility, increasing capacity for adaptation, and emerging interest in cooperation, in terms of the child's actual behavior; demonstrate acceptance to the child by including the home language functionally in the group setting and helping to use it as a bridge to another language for the sake of extended communication; recognize individual differences in children's style and pace of learning and in the social-emotional aspects of their life situation and adjust the teacher-child relationship to the individual needs by using a variety of teaching methods and by maintaining flexible progressive expectations; recognize when behavior reflects emotional conflicts around trust, possession, separation, rivalry, etc., and adapt the program of experiences, teacher-child and child-child relationships, so as both to give support and to enlarge the capacity to face these problems realistically; assess special needs of individual children and call in specialized help where necessary; keep a balance for the individual child between tasks and experiences from which feelings of mastery and success can be enjoyed, and those other tasks and experiences which are a suitable and stimulating challenge, yet not likely to lead to discouraging failure; assess levels of accomplishment for the individual child against the background of norms of attainment for a developmental stage, taking into careful consideration individual strengths and weaknesses and considering opportunities the child has or has not had for learning and development. (3-0-21) 5

**HSA 5513 CDA Practical Lab IV—Organizing and Sustaining the Positive Functioning of Children and Adults in a Group Learning Environment:** Upon completion of this practical lab experience, students should be able to: plan the program of activities of the children to include opportunities for playing and working together and sharing experiences and responsibilities with adults in a spirit of enjoyment as well as for

the sake of social development; create an atmosphere through example and attitude where it is natural and acceptable to express feelings, both positive and negative—love, sympathy, enthusiasm, pain, frustration, loneliness or anger; establish a reasonable system of limits, rules and regulations to be understood, honored and protected by both children and adults, appropriate to the stage of development; foster acceptance and appreciation of cultural variety by children and adults as an enrichment of personal experience; development projects that utilize cultural variation in the family population as resource for the educational program. (3-0-21) 5

**HSA 5514 CDA Practical Lab V—Bringing About Optimal Coordination of Home and Other Child-Rearing Practices and Expectations:** Upon completion of this practical lab experience, students should be able to: incorporate important elements of the cultural backgrounds of the families being served (food, language, music, holidays, etc.) into the children's program in order to offer them continuity between home and center settings at this early stage of development; establish relationships with parents that facilitate the free flow of information about their children's lives inside and outside the center; communicate and interact with parents toward the goal of understanding and considering the priorities of their values for their children; recognize each child as a member of a particular family and work with that family to resolve disagreements between the family's life style with children and the center's handling of child behavior and images of good education; recognize and utilize the strengths and talents of parents as they may contribute to the development of their own children and give parents every possible opportunity to participate and enrich the group program. (3-0-21) 5

**HSA 5515 CDA Practical Lab VI—Carrying Out Supplementary Responsibilities Related to the Children's Programs:** Upon completion of this practical lab experience, students should be able to: make observations of the growth and development of individual children and changes in behavior, formally or informally, verbally or in writing, and share this information with other staff involved in the program; engage with other staff in cooperative planning activities such as schedule or program changes indicated as necessary to meet particular needs of a given group of children or incorporation of new knowledge or techniques as these become available in the general field of early childhood education; demonstrate an awareness of management functions such as ordering of supplies and equipment, scheduling services, safeguarding health and safety, and transmitting needs for efficient functioning to be the responsible staff member or consultant. (3-0-21) 5

**HSA 5516 CDA Practical Lab VII—Portfolio Development:** Upon completion of this practical lab and lecture, students should be able to: state and interpret in their classroom the six competencies and the thirteen functional areas of the Child Development Associate Credential; assemble and annotate a personal portfolio according to the guidelines of CDA Credentialing; a personal autobiography (150-300 words), at least three items under each of the functional areas which demonstrate the candidate's competency in that area (pictures, room diagrams, children's work, lesson plans, parent notes, list of activities, etc.), and a written explanation to accompany each item included. (3-0-21) 5

## Humanities\*

\*See, also, LITERATURE

**HUM 1300 The Ascent of Man:** This course is based on the

Bronowski film series, and taught by a team of instructors representing several disciplines. Upon completion, students should: be able to identify important scientific thinkers and their discoveries; be familiar with the influence of scientific discoveries on humanistic thinking; have an understanding of science as an important factor in human social and cultural evolution. (3-0) 3

**HUM 1305 Classic Fairy Tales:** This course is designed to explore the fairy tale as a literary art form with distinct archetypal patterns. Upon completion, students should be able to analyze fairy tales from a structural, social, psychological and archetypal perspective. (3-0) 3

**HUM 1314 The Novel:** In this course, five works selected from American, British, French, Russian and Spanish literature are studied. Upon completion, students should: have an understanding of the novel as a literary genre and a knowledge of the cultural tradition out of which each work emerged; be able to differentiate between the literary methods and techniques of the respective writers; have discovered the novel as a representation of life. (3-0) 3

**HUM 1319 Mythology:** This course is a study of myths and legends, chiefly Greek and Roman. Upon completion of this course, students should: be familiar with the myths; be able to assess the influence of myths on art, custom and tradition; recognize the impact of myths on contemporary thought. (3-0) 3

**HUM 1324 Science Fiction:** In this course, science fiction is studied in historical perspective. Upon completion of the course, students should: be able to differentiate between science fiction and other literary genres; trace the themes and development of science fiction; recognize the influence of science fiction on contemporary culture. (3-0) 3

**HUM 1329 Russian Literature and Culture:** Upon completion of this course, students should be able to demonstrate a general knowledge of Russian culture as revealed in selected readings, lectures and audio-visual presentations. They should be able to demonstrate an awareness of geographical, historical, and political factors affecting life and the arts in the Soviet Union. (3-0) 3

**HUM 1330 Women's Images in Fiction:** This is a course designed to develop an awareness and understanding of women's changing roles in society as portrayed in fiction. Upon completion, students should demonstrate a knowledge of the development of women's social roles during the nineteenth and twentieth centuries through novelists' and short story writers' portraits of women. (3-0) 3

**HUM 1500 Humanities—Classical to Medieval:** This course is a study of Western culture as revealed in art, literature, music and philosophy. Upon completion, students should: have a familiarity with Western culture as revealed through art, music, literature and philosophy from classical to medieval times; have discovered the ways in which the humanities have helped to shape, reflect and interpret Western culture; be able to recognize dominant styles and identify major works of art, literature and music of the period. (5-0) 5

**HUM 1501 Humanities—Renaissance to Present:** This course is a study of Western culture as revealed in art, literature, music and philosophy. Upon completion of this course, students should: have a familiarity with Western culture as revealed through art, music, literature and philosophy from the Renaissance to the present; have discovered the ways in which the humanities have helped to shape, reflect and interpret Western



culture; be able to recognize dominant styles and identify major works of art, literature and music of the period. (5-0) 5

## Industrial Safety, Health, Security and Investigations

(see: SSH)

## Insurance

**INS 3340 Principles of Risk and Insurance:** Upon completion of this course, students should be able to: describe the basic concepts of risk including its relationship to probability theory and the law of large numbers; discuss the relationship between risk and insurance; list and discuss the principles of risk management and the role of the risk manager; describe the nature and function of various types of insurance institutions; discuss the principles of insurance contracts. (3-0) 3

**INS 3341 Property and Casualty Insurance:** Upon completion of this course, students should be able to: describe the legal basis of insurance and be able to discuss the significance of insurable interest, indemnity, material fact and concealment; list the principles and conditions for the following types of insurance: marine insurance, standard fire insurance, inland marine insurance; discuss the purpose and intent of comprehensive general liability insurance, automobile insurance and automobile financial laws; describe crime insurance and suretyship; list and discuss the various multiple line coverages and commercial property forms. (3-0) 3

**INS 3342 Life and Health Insurance:** Upon completion of this course, students should be able to: describe the principles of life and health insurance, the types and uses of annuities and the uses of life insurance and methods of settlement; differentiate between gross and net premiums; discuss the concept of cash surrender value; analyze and interpret insurance company financial statements; list the types and categories of health insurance. (3-0) 3

**INS 3354 Fire Insurance:** Upon completion of this course, students should be able to interpret in layman's terms the 165 lines of the Standard Fire Policy as well as other property policies that include fire coverage. They should also be able to work mathematically various co-insurance problems. Prerequisites: INS 3340 and INS 3341. (3-0) 3

**INS 3355 Casualty Insurance:** Upon completion of this course, students should be able to read and explain in layman's terms each of the various casualty policies. They should also be able to calculate and explain the difference in premiums when deductibles are used and to increase coverages. Prerequisites: INS 3340 and INS 3341. (3-0) 3

**INS 4201 Part I—Principles of Life Insurance:** Part I is designed to acquaint students with the basic features of life and health insurance and annuity products. Upon completion of this course, students should be able to: list the elements of an insurable risk; define the basic life, health and annuity products; explain premium calculations and reserves; describe the major clauses in a life policy. Also, students should be able to pass the FLMI Part 1 exam. (2-0) 2

**INS 4202 Part 2—Life Company Operations:** Part 2 focuses on the business organization of the insurance industry. Upon completion of this course, students should be able to: differentiate between stock and mutual insurers, fraternal societies, savings banks and governmental plans; explain the follow-

ing functions of a company: actuarial, marketing, underwriting, policy owner service, legal investment and accounting. Students should also be able to pass the FLMI Part 2 exam. Prerequisite or Corequisite: INS 4201. (2-0) 2

**INS 4203 Part 3—Legal Aspects of Life Insurance:** The basic features of the legal environment which affect a life insurance company's products and operations are presented in Part 3. Upon completion of this course, students should be able to: distinguish between constitutions, case law and statutes; recognize valid, void and voidable contracts; discuss the basic principles of agency law; describe the formation of a life contract; describe actions and defenses of contesting the contract; explain the legal effect of policy loans; describe the law of wills, interpleader, rescission and reformation. Students should also be able to pass the FLMI Part 3 exam. Prerequisite: INS 4202. (2-0) 2

**INS 4209 Part 9cl—Life and Health Insurance Claims:** The purpose of this preparatory course is to familiarize students with the medical, legal and organizational aspects of claim administration. Upon completion of this course, students should be able to: use basic medical terminology properly; describe the claim administration process and how it is managed; list general claim considerations of all types of life and health policies; explain how life insurance proceeds are distributed. Students should also be able to pass the FLMI Part 9cl exam. Prerequisite: INS 4202. (2-0) 2

**INS 4210 Part 9gi—Group Insurance:** This preparatory course examines the development, technical aspects and administration of group life and health insurance coverages. Upon completion of this course, students should be able to describe the background, characteristics, forms, ratings, underwriting and administration of group life and health plans; list other forms of group insurance including government insurance programs. Students should also be able to pass the FLMI Part 9gi exam. Prerequisite: INS 4202. (2-0) 2

**INS 4211 Part 9li—Life Insurance Investments:** The purpose of this preparatory course is to familiarize students with the types of investment media used by insurance companies and with the policies and practices of investment management in varying economic environments. Upon completion of this course, students should be able to: describe a financial analysis, investment policies of a life insurer, kinds of mortgages, alternatives to mortgages; define real estate appraisal methods; explain managing investment techniques, the legal aspects of mortgages and how mortgages are administered. Students should also be able to pass the FLMI 9li exam. Prerequisite: INS 4202. (2-0) 2

**INS 4294 General Insurance Part I—Introduction:** This is the first course in a series which when completed should waive the licensing exam given by the Department of Insurance for insurance agents. Upon completion of this course, students should be able to: identify the types of risk and how to apply the risk management concepts to said risks; discuss the various types of insurance and the functions of insurance companies; interpret the various laws and regulations affecting the insurance industry. (2-0) 2

**INS 4295 General Insurance Part II—Life, Accident and Health:** A continuation of INS 4294. When completed with INS 4294, this course should waive the licensing exam required for Life, Accident and Health Insurance agents. Upon completion of this course, students should be able to: discuss the exposures, types, policy provisions and practices of life, accident and health insurance; interpret the regulations and laws specifi-

cally applying to life, health and accident agents; describe the various social insurance plans. Prerequisite: INS 4294. (2-0) 2

**INS 4296 General Insurance Part III—Fire and Casualty:** A continuation of INS 4294. When completed with INS 4294, this course should waive the licensing exam required for Fire and Casualty agents. Upon completion of this course, students should be able to discuss and explain the various lines for fire and casualty insurance such as: automobile, marine, inland marine, general liability, worker's compensation, commercial fire, home owner's, crime and umbrellas. Students should also be able to: explain the functions of government sponsored insurance such as FAIR plans and BEACH plans; interpret the regulations and laws specifically applying to fire and casualty agents; discuss the forms for the various types of insurance. Prerequisite: INS 4294. (2-0) 2

**INS 4297 General Insurance Part IV—Adjusters:** Upon completion of this course, students should be able to: describe the legal basis of contracts and claims; discuss the elements and purpose of negligence, principle of single recovery, *res gestae*, family purpose doctrine and the presumptions of *res ipsa loquitur* and *respondent superior*; list and discuss the principles of torts; describe and discuss the art of investigation and interviews; list the principles and describe the nature and function of negotiations, arbitration, settlement and law suits; list and discuss various medical reference sources, medical terminology and diagnostic procedures. Prerequisite: INS 4296. (2-0) 2

**INS 4320 Financial Services—Environment and Professions:** This introductory course sets the stage for CLU and ChFC programs by providing an overview of the environment in which financial services professionals assist clients in meeting their financial counseling and planning needs. Upon completion of this course, students should be able to: describe consumer needs for comprehensive financial counseling and planning; explain the financial planning process; use effective communications skills and techniques in financial planning; gather client information in the financial planning process; discuss the standard of professionals and ethics; describe the relationships among professionals in financial services, the financial services markets and institutions. Also, students should be able to pass the HS 320 exam. (3-0) 3

**INS 4321 Income Taxation for Financial Planning:** This preparatory course provides coverage of the federal income tax system with particular reference to the taxation of life insurance and annuities. Students should be able to explain the way income tax laws apply to transactions of individuals and businesses and their importance to financial services professionals. They should also be able to pass the HS 321 exam. (3-0) 3

**INS 4322 Financial Planning Economics:** This preparatory course is designed to explain the basic economics, principles and institutions, an understanding of which is necessary for an appreciation of alternative explanations of and alternative solutions for the more common economic problems found in private and government sectors. Upon completion of this course, students should be able to describe the price system and the market economy, the circular flow of national income and product; the determinants of monetary policy, unemployment, and inflation and stabilization policy. (3-0) 3

**INS 4323 Financial Statement Analysis—Individual Insurance Benefits:** This is the first course in the CLU and ChFC programs providing coverage of products, tools and techniques. Upon completion of this course, students should be able to assess a client's financial condition properly through analysis of financial statements. They should be able to describe various

types of individual insurance coverages available for meeting life, health, personal property and liability needs. Students should also be able to pass the HS 323 exam. (3-0) 3

**INS 4324 Insurance Environment and Operations:** Financial services professionals must understand the legal rights and obligations of the policy owner and the insurance company before and after the policy is issued. Upon completion of this course, students should be able to explain the legal aspects of contract formation, policy provisions, assignments, ownership rights, creditor rights, beneficiary designations, dispositions of life insurance proceeds and life insurance agency. They should also be able to describe the various company types, organization, operations and regulations. They should also be able to pass the HS 324 exam. (3-0) 3

**INS 4325 Group Benefits and Social Insurance:** It is important that financial services professionals understand the benefits provisions and the advantages and limitations associated with both group insurance and social insurance as methods for meeting economic security needs. Upon completion of this course, students should be able to analyze group insurance benefits, including the regulatory environment, alternative funding as well as various governmental programs related to death, old age, unemployment and disability. Students should also be able to pass the HS 325 exam. (3-0) 3

**INS 4326 Pensions and Other Retirement Plans:** This course emphasizes planning for retirement income and for maximum tax benefit for employees and business owners. Upon completion of this course, students should be able to: distinguish qualified and non-qualified deferred compensation plans; design a qualified pension plan, profit-sharing plan and other qualified plans; explain the income and estate tax aspects. They should be able to explain individual retirement plans, tax deferred annuities and non-qualified deferred compensation plans. Students should be able to pass the HS 326 exam. (3-0) 3

**INS 4327 Employee Benefits:** It is important that students in financial planning understand the benefit provisions and the advantages and limits associated with social insurance, group insurance and retirement plans. Upon completion of this course, students should be able to: design employee benefit plans for providing security with respect to the economic problems resulting from death, old age, unemployment and disability; analyze group insurance benefits and describe basic features of pension plans, profit-sharing plans, other retirement plans and deferred compensation agreements. Students should also be able to pass the HS 327 exam. (3-0) 3

**INS 4328 Investment Principles and Their Application to Personal Finance:** Effective financial planning requires that the investment be selected that meets personal objectives and is consistent with personal risk preference. Upon completion of this course, students should be able to: explain the various aspects of investment principles and their application to personal finance; describe yields, limited income, securities, investment markets; describe how common stocks and real estate are valued; define mutual funds, variable annuities; find tax sheltered investments and explain the principles of personal portfolio management. They should also be able to pass the HS 328 exam. (3-0) 3

**INS 4329 Wealth Accumulation Planning:** Upon completion of this course, students should be able to: explain the principles of real estate investment and taxation; describe the fundamentals of tax-sheltered and tax-incentive investments with emphasis on major tax investment and organizational



characteristics of real estate, oil and gas, agricultural, and equipment-leasing limited partnership; plan for a living estate within a framework of accumulation and retirement planning. Students should also be able to pass the HS 329 exam. (3-0) 3

**INS 4330 Estate and Gift Tax Planning:** The estate and gift planning process includes an understanding of the tax consequences of various estate planning devices. Upon completion of this course, students should be able to: describe the nature, valuations, transfer, administration and taxation of property; explain the unified estate and gift taxation, the marital deduction, use of life insurance in estate planning, and other estate planning devices. Students should also be able to pass the HS 330 exam. (3-0) 3

**INS 4331 Planning for Business Owners and Professionals:** Upon completion of this course, students should be able to describe and explain: tax and legal aspects of organizing a business, problems in continuing a business after an owner's death and the insured buy-sell agreement; retirement of a business owner, including estate planning and "estate freezing" techniques; lifetime dispositions and the use of installment sales and other methods of business uses of life and health insurance for the benefit of business owners; disability buy-sell agreements; key employee life and health insurance plans; and split-dollar life insurance plans; business uses of property and liability insurance. Students should also be able to pass the HS 331 exam. (3-0) 3

**INS 4332 Financial and Estate Planning Applications:** A case course aimed at both integrating the various techniques, tools and products covered in earlier courses in the chartered financial consultant program with the financial planning process outlined in INS 4320 (HS 320) and giving students practical application in analyzing and solving realistic financial problems of individuals and businesses. Upon completion of this course, students should be able to apply the skill learned in the preceding courses to cases ranging from simple fact patterns and basic documents to complex situations involving not only personal financial problems but also financial problems associated with businesses and business ownership. Students should also be able to pass the HS 332 exam. (3-0) 3

**INS 4354 Professional Ethics:** Upon completion of this course, students should be able to identify and list the elements of the crimes most often committed by persons in the insurance industry, as well as understand the meaning of insurance being a "service industry." Students should also be able to identify ethical and non-ethical behavior from various scenarios given. Prerequisites: INS 3340, INS 3341 and INS 3342. (3-0) 3

**INS 4361 Automobile and Commercial Auto Rating:** Upon completion of this course, students should be able to use the appropriate rate books and rate various automobile insurance coverages. (3-0) 3

**INS 4362 Fire, Dwelling and Homeowners Rating:** Upon completion of this course, students should be able to use the appropriate rate book and rate the various fire policies, dwelling policies and homeowners policies. (3-0) 3

**INS 4363 Businessowners Rating:** Upon completion of this course, students should be able to use the appropriate rate book and rate the various businessowners policies. (3-0) 3

**INS 4364 General Insurance Rating:** A one quarter survey course of rating insurance policies. Upon completion of this course, students should be able to describe class rating, schedule rating, retrospective rating and experience rating. Also, stu-

dents should be able to make basic use of various rate books. (3-0) 3

**INS 4370 General Liability, SMP Rating:** Upon completion of this course, students should be able to use the appropriate rate book and rate various general liability and SMP policies. (3-0) 3

**INS 4371 Worker's Compensation Rating:** Upon completion of this course, students should be able to use the appropriate rate book and rate worker's compensation policies. (3-0) 3

**INS 4384 Insurance Law:** Upon completion of this course, students should be able to apply contract law principles to insurance, discuss waiver, estoppel and misstatement of material facts, as well as fraud and concealment. Students should also be able to interpret the meaning of various parts of insurance contracts. Prerequisites: BUS 2304 and BUS 2305. (3-0) 3

**INS 4394 Claims Settlement:** Upon completion of this course, students should be able to: take recorded statements and oral statements from witnesses, claimants and witnesses; obtain documentation of claims; value claims and negotiate settlements with policy holders, claimants and attorneys. Prerequisites: INS 4296, LEX 4321 and LEX 4431. (3-0) 3

## Interior Design (see: EDN)

## Journalism

**JOU 1300 News Writing:** Upon completion of this course, students should: know the ethics of journalism and basic press law with respect to libel and privacy; be able to use the information gathering process to write and edit news stories for print media; analyze the publisher-editor-writer-audience relationship. (2-3) 3

## Law Enforcement (see: PSC)

## Paralegal

**LEX 3300 Case Analysis and Reasoning:** The first course in a series of courses that studies the fundamentals of legal research, analysis and writing. Upon completion of this course, students should be able to: read and interpret court decisions, statutes and constitutions; write and use a composite brief; synthesize opinions; analogize opinions and fact situations. (3-0) 3

**LEX 3310 North Carolina Legal System:** This course examines the roles of state and federal judiciary in North Carolina through use of the United States and North Carolina Constitutions and the various applicable statutes. Upon completion of this course, students should be able to describe and analyze the role of each court sitting in North Carolina. (2-2) 3

**LEX 3320 Evidence:** This course is an examination of the principal rules of evidence applicable in civil trials by jury at common law, their history, development and modern application, together with statutes affecting the field. Upon completion of this course, students should be able to: distinguish between direct and cross examination; explain the methods and limits of impeachment; utilize real and demonstrative evidence, prepare exhibits for introduction; identify proper introduction of opinion evidence; discuss the best evidence rule, presumptions, inferences and burden of proof; recognize hearsay and its exceptions; explain the importance of saving the record for appeal. (3-0) 3

**LEX 3404 Legal Research:** A continuation of LEX 3300. Upon completion of this course, students should be able to do basic legal research by using legal publications such as U.S.G.A., N.C.G.S., ORDINANCES, REPORTERS, DIGESTS, WORDS AND PHRASES, ENCYCLOPEDIAS, A.L.R., SHEPARDS, LOOSELEAF SERVICES, and C.F.R. Prerequisites: LEX 3300 and admission to program. (2-4) 4

**LEX 3405 Legal Writing:** This course is a continuation of LEX 3404 and is designed to train students to express their research and analysis of legal problems clearly and effectively. Upon completion of this course, students should be able to apply the principles of expository prose and the rhetoric of persuasion to the kind of writing required in writing legal memos and two trial briefs. Each student shall write successfully a closed legal memo and an open legal memo. Prerequisite: LEX 3404. (3-2) 4

**LEX 4190 Cooperative Work Experience:** Upon completion of this course, students should be able to: identify the relationship between theoretical legal constructs and work skills required within the legal environment; successfully integrate theories with practice; enhance present work skills by awareness of the integration of contemporary theories, practices and court cases with current practices; develop new skills through a carefully planned and coordinated effort of supervision between an institutional representative and each participant's respective employer. (Maximum credit hours allowed for cooperative work experience is 8 hours.) (0-10) 1

**LEX 4290 Cooperative Work Experience:** Upon completion of this course, students should be able to: identify the relationship between theoretical legal constructs and work skills required within the legal environment; integrate theories with practice successfully; enhance present work skills by awareness of the integration of contemporary theories, practices and court cases with current practices; develop new skills through a carefully planned and coordinated effort of supervision between an institutional representative and each participant's respective employer. (Maximum credit hours allowed for cooperative work experience is 8 hours.) (0-20) 2

**LEX 4291 Description:** Same as LEX 4190 (0-20) 2

**LEX 4292 Description:** Same as LEX 4190 (0-20) 2

**LEX 4293 Description:** Same as LEX 4190 (0-20) 2

**LEX 4300 Domestic Relations Law:** A course which examines the various laws of North Carolina that affect the marriage and family relationships such as statutory grounds for divorce, defenses to divorce actions, elements of separations by court order or by mutual consent, and custody of children. Upon completion of this course, students should be able to: discuss the various applicable statutes; interview the client and potential witnesses; aid the attorney in the drafting of divorce, custody and support pleadings, separation agreements, consent judgments, court orders and documents for adoption. (3-0) 3

**LEX 4321 Tort Law:** A study of the fundamental principles of the law or Torts. Upon completion of this course, students should be able to: recognize the more common intentional torts as negligence from various fact situations; explain the prima facie case for each; evaluate the defenses available to each. (3-0) 3

**LEX 4322 Corporate Law:** A study of the laws of North Carolina concerning partnerships and corporations. Upon completion of this course, students should be able to explain the basic concepts of corporations as compared to partnerships, joint ventures and sole proprietorships. Students should be able

to aid the attorney in interviewing clients, drafting articles of incorporation, by-laws, minutes, resolutions, stock certificates, partnership agreements, joint venture agreements, and the proper filing of corporate and partnership documents. (3-0) 3

**LEX 4331 Law Office Management:** A study of effective organization and management skills in both small and large law offices. Upon completion of this course, students should be able to write an office manual as well as procedures manuals. They should be able to explain: the need for and methods of filing and indexing legal matters; the methods of opening new matter files; various accounting systems; time keeping systems and professional liability insurance. Students should be able to examine other management problems existing in a law office. (3-0) 3

**LEX 4332 Trial Preparation and Procedures:** An in-depth study of legal drafting and the rules of Civil Procedure. Students who complete this course should be able to aid the attorney in the drafting of the various pleading, motions, orders, interrogatories and affidavits that are the ordinary components of civil actions. They should also be able to aid in the preparation of the file and exhibits for the trial Prerequisite: LEX 3404. (3-0) 3

**LEX 4341 Worker's Compensation Laws:** A study of the various North Carolina laws concerning worker's compensation claims. Upon completion of this course, students should be able to aid the attorney in interviewing and investigation of such claims, collecting and reviewing medical data, settlement negotiations and in preparing such claims for hearings. (3-0) 3

**LEX 4351 Laws of Taxation:** A study of the various tax laws concerning legal matters most often seen in a law office. Upon completion of this course, students should be able to aid the attorney in the gathering of necessary data and completion of such tax forms as are necessary for estates and trusts, incorporation of new businesses and selection of Sub-Chapter S. (3-0) 3

**LEX 4352 Preparing Estate Planners:** This course is designed to train personnel in assisting others in estate planning. Upon completion of this course, students should be able to: research and interpret the various estate and gift tax laws; list the benefits and negative aspects of the different methods of funding estates; select assets in terms of good and bad risks for estate ownership; discuss the fiduciary requirements of one assisting another in estate planning. (3-0) 3

**LEX 4361 Interpreting Medical Reports:** This is a self-paced course designed to acquaint students with the terminology, diagnosis and treatment of physical injuries most often seen in medical reports on personal injury cases. Upon completion of this course, students should be able to review and analyze the various medical reports sent to a law office on personal injury cases. (3-0) 3

**LEX 4390 Description:** Same as LEX 4190 (0-30) 3

**LEX 4391 Description:** Same as LEX 4190 (0-30) 3

**LEX 4392 Description:** Same as LEX 4190 (0-30) 3

**LEX 4410 Collections and Bankruptcy:** This course emphasizes a study of the laws and procedures of handling collections for clients and bankruptcy of clients, including study of the bankruptcy laws in effect as of October 1, 1979. Upon completion of this course, students should be able to develop and set up a collection system within a law office by aiding the attorney in drafting necessary form letters, complaints, liens and notices of sale. Students should also be able to interview the client, investigate the situation, and complete the bankruptcy package of documents. (3-2) 4



**LEX 4420 Real Property Law and Title Abstracting:** This is a course which examines the laws of real property with emphasis on common types of real estate transactions and conveyances as well as the steps necessary to abstract a title, aid the attorney in the drafting of deeds, deeds of trust, mortgages and other documents necessary to real property transactions and closing statements; aid the attorney in completion of loan packages. Preparation of an abstract of title is a requirement of the course. (3-2) 4

**LEX 4430 Wills, Trusts and Probate:** This course emphasizes procedures concerning distribution of property by trusts, wills and intestacy. Upon completion of this course, students should be able to interview clients, use a wills manual, and aid the attorney in drafting wills and trusts, as well as complete the documents necessary to administer an estate. Prerequisite: LEX 3404. (3-2) 4

**LEX 4431 Interview and Investigation:** This is a training course in various techniques of interviewing both clients and witnesses. Upon completion of this course, students should be able to: obtain medical records, official records and documents for preparation of client matters; research and design interview sheets and checklists for various legal matters and design in-house files for various legal matters. Students will develop interview sheets and will role play various interview situations as part of this class. Prerequisite: LEX 3404. (3-2) 4

**LEX 4434 Legal Drafting:** This course is a continuation of LEX 3404 and LEX 3405. Upon completion of this course, students should be able to use form books, form files, rules of procedure, research and imagination to draft most letters and documents necessary in a private law office with the exception of those documents unique to an area of law taught in a separate course. Prerequisite: LEX 3405. (3-2) 4

**LEX 4490 Description:** Same as LEX 4190 (0-40) 4

**LEX 4491 Description:** Same as LEX 4190 (0-40) 4

**LEX 4492 Description:** Same as LEX 4190 (0-40) 4

**LEX 4493 Description:** Same as LEX 4190 (0-40) 4

**LEX 4520 Legal Ethics and Comprehension:** This course must be taken during students' last quarter. The course is divided into two parts. The first part of the course analyzes the ethics of lawyer and staff. Upon completion of this part, students should be able to: explain the N.C. Unauthorized Practice of Law Statutes and how they apply to paralegals; contrast and compare the ABA Code of Professional Responsibility, the N.C. Canon of Ethics, and codes of ethics of the National Federation of Paralegal Associations and the National Association of Legal Assistants; identify authority that can and cannot be delegated by the attorney; discuss what constitutes proper supervision. The second part of the course consists of comprehensive exams of all law courses taken by students during their tenure in the program. (5-0) 5

## Literature\*

\*Fills Humanities Requirement.

See, also, HUMANITIES

**LIT 2314 Contemporary Literature:** This course is a study, through the short story and novel, of such twentieth-century writers as Bellow, Malamud, Roth, Singer, O'Connor, Welty, Baldwin, Updike, Cheever, Oates, Sartre and Kafka. Upon completion, students should: be familiar with selected writers who have influenced and distinguished contemporary fiction; have a knowledge of some philosophical, ethnic, regional and stylistic

trends reflected in the literature; have a greater competence in analyzing from a social, structural, psychological, archetypal and philosophical perspective. (3-0) 3

**LIT 2320 Special Topics:** This is an advanced course in which students and the instructor select a topic for in-depth study. Prerequisite: Approval of the supervisory instructor and the department head. (3-0) 3

**LIT 2324 The Bible as Literature:** This course is a study of selected portions of the Bible. Upon completion, students should: have an understanding of the Bible as literature, containing myth, legend, saga, lyric poetry, drama, short story and biography; be able to identify Judeo-Christian ideas as they are reflected in the material studied; have a knowledge of changes in concepts and values during the span of Biblical history. Prerequisite: COM 1306 or consent of department head. (3-0) 3

**LIT 2504 British Literature, 1300-1800:** This course is a study of selected works of British writers before 1800, with emphasis on Chaucer, Shakespeare and Milton. Upon completion of this course, students should: be familiar with selected works of the writers of the period; have an awareness of the development of the English language and of literary trends during the period; be able to analyze the literature read in terms of form and content. Prerequisite: COM 1306 or consent of department head. (5-0) 5

**LIT 2505 British Literature, 1800-Present:** This course is a study of selected works of British writers since 1800, including Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, Tennyson, Eliot, Conrad, Shaw, Hardy and Yeats. Upon completion, students should: be familiar with selected works of the writers studied; be able to characterize romantic, Victorian and modern British literature; be able to analyze the literature read in terms of form and content. Prerequisite: COM 1306 or consent of department head. (5-0) 5

**LIT 2514 American Literature, 1800-1900:** This course is a study of selected works of American writers before 1900, with emphasis on Poe, Hawthorne, Melville, Emerson, Thoreau and Whitman. Upon completion, students should: have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers and to show greater competence in interpreting, analyzing and evaluating literature, and in discerning meanings and ideas in literature. Prerequisite: COM 1306 or consent of department head. (5-0) 5

**LIT 2515 American Literature, 1900-Present:** This course is a study of selected works of major American writers, including Crane, James, Robinson, Frost, O'Neill, Anderson, Dreiser, Hemingway, Wolfe and Faulkner, with emphasis on their interpretations of the modern era. Upon completion, students should: have a knowledge of the lives and representative works of the writers studied; have a knowledge of how each writer reflects certain trends of society; be able to identify literary devices and techniques used by the writers; be able to show greater competence in interpreting, analyzing and evaluating literature; and in discerning meanings and ideas in literature. Prerequisite: COM 1306 or consent of department head. (5-0) 5

## Learning Lab

**LLB 9200 Classroom Success:** Upon completion of this course, students should be able to: demonstrate college level techniques of effective study habits which include time man-

agement, listening and taking notes, mastering textbooks, concentrating and remembering, and taking exams; explain the use of College publications, the procedures for registration and for obtaining the benefits of the resources available at CPCC.

(0-3) 2

## Machinist

**MAC 5200 Precision Instrument Reading:** Upon completion of this course, students should be able to: solve problems related to the machinists' field involving fractions and decimals; read basic 3-view projections; properly care for, read and use the following precision measuring instruments: steel rule, vernier caliper, vernier height gauge, micrometer, dial indicator, gauge blocks and fixed gauges.

(2-0) 2

**MAC 5201 Machine Shop Practices:** Upon completion of this course, students should be able to: identify and use the basic hand tools and measuring instruments associated with the metal working trades; perform basic operations using a drill press, lathe, milling machine and grinding machine; describe and use all appropriate safety procedures.

(1-3) 2

**MAC 5300 Introduction to Numerical Control Programming:** Upon completion of this course, students should be able to: discuss the history and advantage of NC and CNC control equipment; describe different types of NC equipment; demonstrate knowledge of different tools used on a two-axis drill machine; demonstrate knowledge of speeds and feeds; use special codes and symbols for Pratt & Whitney two-axis drilling machine; write program using six different tools, and absolute dimensioning; punch tapes on Flexowriter; design, write, punch and produce a part on Pratt & Whitney drill machine; calculate coordinates with trigonometric formulae.

(3-0) 3

**MAC 5301 Blueprint Reading for Machinists I:** Upon completion of this course, students should be able to: sketch multi-view drawings; interpret conventional lines and dimensions; interpret notes, thread notations, and welding symbols; make pictorial sketches; interpret basic drawings.

(3-0) 3

**MAC 5302 Blueprint Reading for Machinists II:** Upon completion of this course, students should be able to: read and interpret industrial prints of a more complex nature; understand and interpret geometric tolerance symbols and true position dimensioning; sketch details and assemblies. Prerequisite MAC 5301.

(3-0) 3

**MAC 5304 Computer Numerical Control Programming I:** Upon completion of this course, students should be able to: describe the proper use and uses of Inserted Qualified Tooling; determine proper speeds and feeds; demonstrate knowledge of "G" codes and applications for the CNC 5 lathe; manually set up and operate the CNC 5 lathe for NC programs; write programs for straight and taper turning, turn radius and chamfers, O.D. and I.D. threading; convert M.D.I. to program computer on CNC 5 control; write programs for lathe capabilities; optimize and edit programs. Prerequisite: MAC 5300 or permission from Machinist program director.

(2-2) 3

**MAC 5305 Computer Numerical Control Programming II:** Upon completion of this course students should be able to: state the "G" codes and their applications for industrial NC equipment; discuss the "M" codes and their machine functions; discuss machine control words; prepare manuscripts, using canned drilling cycles, straight line linear interpolation, circular interpolation, close tolerance boring, application of threading cycles; determine correct speeds and feeds; discuss computer assist programming; convert M.D.I. programming to CNC

control; optimize and edit programs; write and prepare tapes to plot, prove, edit and produce good parts on machining center. Prerequisite: MAC 5300 or permission from the Machinist program director.

(2-2) 3

**MAC 5307 Machine Tool Application I:** Upon completion of this course, students will have completed assigned projects using skills learned in prerequisite courses including the following: planning work for correct machining and ease of operation; using machine tools and hand tools in a proper and safe manner; using proper work habits. Prerequisite: MAC 5311, MAC 5313, MAC 5422 and MAC 5424.

(0-9) 3

**MAC 5308 Machine Tool Application II:** (A continuation of MAC 5307). Upon completion of this course, students will have: reinforced and developed additional manipulative skills related to the machine tool trade by producing assigned projects; specialized in one of the four major areas of machine tool operations. Prerequisite or corequisite: MAC 5307.

(0-9) 3

**MAC 5311 Basic Lathe Operations:** Upon completion of this course, students should be able to: select the proper speeds and feeds for assigned projects; use proper work holding devices; select proper lathe tools; perform operations with prescribed accuracy for straight turning, knurling, threading (external), boring and tapering; use safe and proper techniques in all procedures. Corequisite: MAC 5200.

(1-6) 3

**MAC 5313 Layout, Hand Tool, and Drill Press Procedures:** Upon completion of this course, students should be able to: properly use hand tools normally used in machine shop work; use layout tools with prescribed accuracy; operate the drill press to drill, ream, countersink, counterbore, machine tap, layout and drill multiple holes. Corequisite: MAC 5200.

(1-6) 3

**MAC 5315 General Machining and Maintenance:** Upon completion of this course, students should be able to: repair broken and/or worn machine parts; perform maintenance procedures; produce typical machine parts; complete industrial grade projects. Prerequisite: MAC 5311, MAC 5313, MAC 5422 and MAC 5424.

(1-6) 3

**MAC 5320 Calculations for Machinists II:** Upon completion of this course, students should be able to: use the concept of ratio and proportion in algebraic calculations; solve equations of one variable involving square roots; express numbers in scientific notation, using exponents; discuss angular measurement in relation to blueprints and shop drawings; solve for unknown dimensions and angles using right-angle trigonometry and symmetry; explain the practical application in the Machinist trade of the Pythagorean Theorem; interpolate trigonometric functions from a table of such functions; use a sine-bar and gauge blocks to determine unknown measurements or angles; solve for unknowns using the Law of Sines and the Law of Cosines; apply angular measurement and right-angle trigonometry to shop calculations. Prerequisite: MAC 5401.

(3-0) 3

**MAC 5401 Basic Calculations for Machinists:** Upon completion of this course, students should be able to: apply the principles of addition, subtraction, multiplication and division to problems in the machinists' field; find direct and indirect ratios and proportions; read a ruler and micrometer accurately; apply geometric formulas toward thread calculations; manipulate fractional and decimal numbers; perform area and volume calculations; use angular and geometric measurements in problem solving; apply simple algebraic equations to work problems; discuss measurement using the metric system as well as the English system.

(4-0) 4



**MAC 5422 Basic Milling Operations:** Upon completion of this course, students should be able to: demonstrate skill in cutter, speed and feed selections; demonstrate proper and safe techniques with prescribed accuracy in face milling, shoulder milling, fly cutting and horizontal plain milling. Corequisite: MAC 5200. (2-6) 4

**MAC 5424 Grinding Machine Operations:** Upon completion of this course, students should be able to: demonstrate a thorough understanding of grinding machine theory and practice; make proper abrasive selections; select appropriate speeds; demonstrate proper and safe techniques in operating with prescribed accuracy the horizontal surface grinder, and cylindrical grinder. Prerequisite: MAC 5311 and MAC 5422. (2-6) 4

## Manufacturing Engineering Technology (see: ISC)

## Mathematics

**MAT 1500 Mathematics for Modern Living:** Students will recognize and use properties of logic and sets; classify and use numbers and sequences; find linear, area and volume measurements; use the metric system; find simple and compound interest and use percentage; use hand calculators; use computer terminology; solve equations; use ratio and proportion; graph linear equations; define and calculate probabilities and statistical measurements. Students are required to attend scheduled orientation and testing sessions. (5-0) 5

**MAT 1504 College Algebra I:** The first of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering or physical science. Students will state and apply the properties of the real number system; add, subtract, multiply and divide polynomials and rational expressions; factor; define and use integral and fractional exponents; simplify radicals, rationalize numerators and denominators; use scientific notation; solve first and second degree equations and inequalities in one variable; solve applied problems; perform basic operations with complex numbers; graph first degree equations and inequalities in the plane; find equations of lines and some conics. (Not applicable to mathematics, engineering or science majors.) Credit not given to students already having credit for MAT 1514. Prerequisite: Placement examination or MAT 9510 or consent of the department head. (5-0) 5

**MAT 1505 College Algebra II:** The second of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering or physical science. Students will define, graph and use relations and functions; determine domain and range of functions; graph quadratic functions and functions containing radicals; determine the inverse of a function; define, graph and use exponential and logarithmic functions; use properties of logarithms; compute with logarithms using tables and calculators; solve systems of equations of two and three variables algebraically and with matrices; solve systems involving second degree equations; use determinants to solve systems of equations; solve systems of inequalities; use linear programming; find permutations and combinations; determine probabilities of events. (Not applicable to mathematics, engineering or science majors.) Credit not given to students already having credit for MAT 1514. Prerequisite: MAT 1504 or consent of department head. (5-0) 5

**MAT 1514 Precalculus Mathematics I:** The first of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. Students will state and use the basic properties of the real number system; add, subtract, multiply and divide algebraic expressions; factor; expand using the Binomial Theorem; solve first and second degree equations; define, graph and apply relations and functions; use straight lines and linear functions; solve polynomial equations of higher degree, solve linear and non-linear inequalities. Prerequisite: Placement examination or MAT 1504 or consent of the department head. Corequisite: MAT 9511 or high school geometry or consent of the department head. (5-0) 5

**MAT 1515 Precalculus Mathematics II:** The second of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. Students will solve systems of equations using algebraic, graphic and matrix methods; define, graph and apply exponential and logarithmic functions; define and apply trigonometric and circular functions; state and apply the addition and multiple angle formulas; prove identities; solve trigonometric equations; graph using symmetry, intercepts, asymptotes and excluded regions; state and apply the properties of the conic sections. Prerequisite: MAT 1514 or consent of the department head. (5-0) 5

**MAT 1516 Introductory Calculus:** This is a brief treatment of the calculus for non-mathematics or non-engineering majors. Students will review functions and relations. They will be able to find limits; determine if a function is continuous; find derivatives of algebraic expressions by the definition; find derivatives by using differentiation techniques; differential implicit functions; find higher order derivatives; apply the derivative to find relative and absolute extrema; determine concavity and points of inflection; find differentials; evaluate definite and indefinite integrals; find areas by integration; differentiate and integrate exponential and logarithmic functions. Prerequisite: MAT 1505 or MAT 1514 or consent of the department head. (5-0) 5

**MAT 1524 Analytic Geometry and Calculus I:** The first of a four-quarter unified sequence of calculus. (The four-quarter sequence is recommended for students in engineering, mathematics, the physical sciences, and students who need more than an introduction to calculus.) Students will study algebraic and trigonometric functions with regard to the concepts of limits, derivatives, continuity, implicit differentiation, the differential and Newton's method of root approximation; apply the derivative to find extrema, increasing and decreasing intervals, concavity and graphing; and solve related-rate problems. Prerequisite: MAT 1515 and plane geometry or consent of the department head. (5-0) 5

**MAT 2504 Analytic Geometry and Calculus II:** The second of a four-quarter sequence. Students will evaluate definite and indefinite integrals with regard to algebraic, exponential, trigonometric, logarithmic, hyperbolic and inverse functions; state and apply the Fundamental Theorem of calculus; apply calculus techniques to finding area, work, power, energy and exponential growth and decay; solve integration problems by the techniques of substitution, parts, trigonometric substitution, partial fractions and miscellaneous substitutions; use integral tables; use numerical integration, summation notation and approximations to area. Prerequisite: MAT 1524 or consent of department head. (5-0) 5

**MAT 2505 Analytic Geometry and Calculus III:** The third of a four-quarter sequence. Students will apply calculus tech-

niques to finding volume, arc length surface area, center of mass, the first moment, centroid of a plane region, moments of inertia, kinetic energy and fluid pressure; solve problems in analytic geometry, and the polar coordinate system (with regard to calculus ideas); find the limit of indeterminate forms (via L'Hopital); evaluate improper integrals; use Taylor's polynomial and approximations; sequences and series. Prerequisite: MAT 2504 or consent of department head. (5-0) 5

**MAT 2506 Analytic Geometry and Calculus IV:** The last of a four-quarter sequence. Students will perform operations on vectors in two and three dimensions; find derivatives and integrals of vector-valued functions in two and three dimensions; find velocity and acceleration; determine domain, continuity and the differentiability of functions of more than one variable; find partial derivatives, total derivatives, higher-order partial derivatives, directional derivatives, gradients; evaluate and apply partial derivatives and line integrals; evaluate and apply multiple integrals (including double integrals, iterated integrals, center of mass, double integrals in polar coordinates, surface area and triple integrals). Prerequisite: MAT 2505 or consent of department head. (5-0) 5

**MAT 2508 Ordinary Differential Equations:** A first course in the study of differential equations. Upon completion of this course, students will be able to solve ordinary differential equations by the standard methods of solution. This includes the methods of variable separable, first-order, exact, homogeneous, equations reducible to first-order, existence and uniqueness of solutions, homogeneous equations with constant and variable coefficients, Euler, linear homogeneous by Taylor's series, non-homogeneous and undetermined coefficients; variation of parameters; elimination and matrix method to homogeneous linear solutions; variation of parameter to non-homogeneous systems; the Laplace transform applied to differential equations and systems; series solution of second-order linear equations; boundary value problems including eigen values and eigen functions; numerical solutions including Euler Taylor, Runge-Kutta and systems of first-order. In addition, students will demonstrate an understanding of the general theory of ordinary differential equations and the application of differential equations to present-day engineering problems. Corequisite: MAT 2506 or consent of the department head. (5-0) 5

**MAT 2514 Statistics I:** Students will organize, analyze and interpret statistical data; calculate measures of central tendency and dispersion; state and apply basic probability laws; draw statistical inferences using random sampling and the binomial, normal  $t$ , and chi square distributions; test hypotheses, find sample sizes and confidence intervals for a single population. Prerequisite: MAT 1504 or MAT 3504 or MAT 3507 or consent of the department head. (5-0) 5

**MAT 2515 Statistics II:** A continuation of Statistics I. Students will draw statistical inferences using student's  $t$ , chi-square, and  $F$  distributions for two populations; design experiments; use analysis of variance, contingency tables and linear regression; evaluate the correlation coefficient; test the utility of a multiple regression model; use non-parametric methods including the sign test. Students will select and prepare an individual project. Prerequisite: MAT 2514 or consent of the department head. (5-0) 5

**MAT 2590 Individual Study:** This course will provide students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Mathematics Department. Each student or group of students works under the supervision of a member of the Mathe-

matics Department. Prerequisite: Approval of the sponsoring instructor and the department head. (5-0) 5

**MAT 3306 Technical Trigonometry:** Students will define the trigonometric ratios; solve right triangles; find resultants and components of vectors; add vectors; find trigonometric ratios of standard position angles; solve oblique triangles using the Laws of Sines and Cosines; sketch sine and cosine waves; perform operations on complex numbers in polar and rectangular form. Prerequisite: MAT 3504 or consent of department head. (3-0) 3

**MAT 3500 Mathematics for Fire Protection:** A technical mathematics course designed to meet the needs of the Fire Science program. Students will perform basic arithmetic operations on whole numbers, fractions and decimals; find areas and volumes; solve linear equations; solve problems using ratio and proportion; and reduce or convert measurements. (5-0) 5

**MAT 3501 Mathematics for Public Safety:** A technical mathematics course designed to meet the needs of the Public Safety program. Students will perform the basic operations of arithmetic on whole numbers, fractions and decimals; find percentages and averages; use the metric system; solve equations; set up and apply ratio and proportion; use consumer mathematics. (5-0) 5

**MAT 3504 Technical Mathematics I:** Students will solve fractional, non-fractional and quadratic equations; find special products and factor; graph; perform operations on algebraic fractions; rearrange formulas; solve systems of equations; and use matrices and determinants. Prerequisite: Placement examination or MAT 9510, or consent of department head. (5-0) 5

**MAT 3505 Technical Mathematics II:** Students will perform operations on polynomials; solve and graph linear equations; simplify and perform operations on square root radicals; solve radical equations and formulas; graph non-linear functions; and find powers and roots. Prerequisite: MAT 3504 or consent of department head. (5-0) 5

**MAT 3507 Engineering Technology Mathematics I:** Students will convert units of measurement from the English system to the metric system and conversely; perform the basic operations on algebraic expressions; factor algebraic expressions; define and recognize a function; graph; solve systems of equations graphically, algebraically, and by determinants; define and use trigonometric functions; find trigonometric functions of any angle; find vector sums and differences, and apply radians to problem solving; solve oblique triangles by law of sines and cosines. Prerequisite: Placement examination or MAT 9510, or consent of department head, or high school algebra II; Corequisite: high school credit in geometry or MAT 9511. (5-0) 5

**MAT 3508 Engineering Technology Mathematics II:** A continuation of MAT 3507. Students will perform operations on advanced algebraic expressions; add, subtract, multiply and divide complex numbers; apply fundamental laws of exponents and of logarithms; evaluate determinants using minors, graph the trigonometric functions; verify trig identities, and solve variation problems. Prerequisite: MAT 3507 or consent of department head. (5-0) 5

**MAT 3509 Engineering Technology Mathematics III:** An applied course in analytic geometry and calculus designed for engineering technology students. Students will solve plane analytic geometry problems related to the circle, parabola, ellipse, hyperbola and straight line; find limits, slope of a tangent line to a curve, and derivatives; differentiate polynomials, products, quotients, powers and implicit functions; apply the derivative to



tangents and normals, curvilinear motion, related rates, curve sketching, and maximum and minimum problems; find differentials, antiderivatives, indefinite integrals; integrate numerically; and evaluate integrals using the Trapezoidal Rule. Prerequisite: MAT 3508 or consent of department head. (5-0) 5

**MAT 4507 Engineering Technology Mathematics IV:** A continuation of MAT 3509. Students will apply integration to practical problems; find derivatives of transcendental functions; use methods of integration to evaluate integrals; and expand functions in series. Prerequisite: MAT 3509 or consent of department head. (5-0) 5

**MAT 5304 Basic Mathematics I:** Upon completion of this course, students should be able to: perform arithmetic operations on whole numbers, fractions and decimals; solve problems relating to percents, metric measurements and graphs. (3-0) 3

**MAT 5305 Basic Mathematics II:** Upon completion of this course, students should be able to: perform simple operations involving the fundamentals of applied algebra such as symbols, first degree equations, ratio and proportions, exponents and radicals; perform simple operations involving the fundamentals of applied geometry for both flat and solid shapes; perform simple operations involving the fundamentals of applied trigonometry such as concepts or right triangle trigonometry, sine, cosine and tangent; perform simple operations involving tolerances, classes of fits and dimensional tolerancing. Prerequisite: MAT 5304 or consent of department head. (3-0) 3

## Mathematics— Advancement Studies

**MAT 9500 Arithmetic:** An individualized self-paced course designed for students who need basic arithmetic skills. Upon completion of MAT 9500, students should be able to perform arithmetic operations and solve problems relating to whole numbers, fractions, decimals, percents, measurement and introduction to algebra. (0-10) 5

**MAT 9502 Algebra I:** An individualized, self-paced course designed to meet the needs of any student who has not had high school Algebra I or for whom it is advisable to repeat. Upon completion of MAT 9502, students should be able to solve problems relating to the language and symbolism of algebra, elementary set theory, algebraic properties of the real number, solution of first degree equations, graphs of linear equations, solution of systems of linear equations by graphic and algebraic methods, factoring polynomial expressions, solution of quadratic equations. Students shall take MAT 9510 before advancing to college or technical math level. (0-10) 5

**MAT 9510 Developmental Algebra:** A course designed for students whose algebraic background is limited to the equivalent of high school Algebra I or for those who need to review algebra before entering college or technical mathematics. The course is now offered in two ways, as indicated on the quarter schedule: as an individualized, self-paced course or as an instructor paced (lecture) course. Upon completion of MAT 9510, students should be able to solve equations and inequalities of first degree; solve systems of two first degree equations algebraically and graphically; graph first degree inequalities in two variables; factor quadratics; simplify radicals and exponents (rational); and solve rational equations, second order rational equations, and quadratic equations with complex roots. Upon completion of this course, students should be prepared to take MAT 3504 if in Business Data Processing Technology, MAT 3507 if in Engi-

neering Technologies, or MAT 1504 if in the College Transfer program. Prerequisite: High School Algebra I or MAT 9502 or placement test. Note: 5 contact hours per week; 5 institutional credits, which affect grade point average but are not transferable to other colleges. (5-0) 5

**MAT 9511 Modern Geometry:** A lecture-discussion class for the study of plane geometry, this visual geometric approach stresses applications to everyday life. This course is designed for students who need a review or for students who have not completed high school geometry. Upon completion of MAT 9511, students should be able to solve problems relating to congruency, similarity, special right triangles, areas and volume. Corequisite for MAT 1514 and MAT 3504. May be taken concurrently with MAT 9502, MAT 9510, MAT 1504, MAT 3504 or MAT 1514. (5-0) 5

## Marketing and Retailing

(see: MKT)

## Mechanical Engineering Technology

**MEC 3101 Mechanical/Manufacturing Seminar:** Upon successful completion of this course, students will have: received an orientation to the College, the mechanical/manufacturing programs, including the services and personnel available; explored available mechanical/manufacturing course specializations and associated career path opportunities; explored the continuing education possibilities, including the Bachelor of Engineering Technology (BET) programs; explored the benefits of membership in professional organizations, including the student section of SME; heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

**MEC 3304 Machine Processes I:** Upon completion of this course, students should be able to: discuss the various metal working occupations and the importance of shop safety; understand and apply the principles of metal cutting theory as related to tool angles, machineability, surface finish, and the use of coolants and lubricants; use precision and nonprecision measuring instruments; explain the construction and use of drill presses and engine lathes; perform basic operations on these machines. Prerequisite: MAC 3201. (2-6) 4

**MEC 3305 Machine Processes II:** Upon completion of this course, students should be able to: explain the construction and use of milling machines, and surface and cylindrical grinders; perform basic operations on milling machines; use the following measuring devices: sine bar, precision gauge blocks, optical flats, electric comparator; explain the construction and identify the principal field of application of the following machine tools: turret lathes, automatic cycle lathes, special drilling, boring and milling machines, centerless grinders; identify the field of application of the recently developed metal working techniques: chemical milling, electrical discharge machining, electrochemical milling, numerical control milling. Prerequisite: MEC 3404. (2-3) 3

**MEC 3307 Engineering Materials:** Upon completion of this course, students will be able to demonstrate familiarity with the following: the most frequently used engineering materials; the behavior of these materials under load and temperature change

conditions; the field of application and use of various engineering materials in design and manufacturing. (3-0) 3

**MEC 3524 Mechanics of Materials:** Upon completion of this course, students should be able to: identify and calculate simple stresses; compute the deformation and strain due to axial and shearing stresses; construct shear and moment diagrams; calculate stresses in beams and deflection of beams; compute stresses due to combined loading; analyze and design welded, bolted and riveted connections; calculate the load carrying capacities of long and intermediate columns. Prerequisites: MAT 3508 and MEC 4508. (3-6) 5

**MEC 4304 Compound Angles:** Upon completion of this course, a study of special geometric solids encountered in the planning and production of jigs and fixtures, students should be able to: recognize and solve problems pertaining to the five basic types of solids; convert orthographic drawings to pictorials; recognize and solve problems related to compound angular drilling and boring. Prerequisites: MAT 3508 and MEC 3504, or departmental permission. (2-3) 3

**MEC 4327 Microcomputer Applications Project:** Upon completion of this course, students should have developed the necessary software to enable use of the microcomputer as a problem solving tool for a significant Mechanical/Manufacturing Engineering Technology application. The application must have significant technical depth and potential practical application for the practicing engineering technician. Projects will be selected by each student from relevant areas after consultation with the instructor. Prerequisites: EDP 3405, MEC 3406, MEC 4515 and DFT 3405. (1-6) 3

**MEC 4404 Tool and Die Design:** Upon completion of this course, a study of the knowledge and skills needed for the design of tools, fixtures and dies, students should be able to: design single point and multiple point cutting tools; design and draw jigs and fixtures; design piercing and blanking dies; design bending and forming dies; complete a design project. Prerequisites: DFT 3406 and MEC 3524. (2-6) 4

**MEC 4405 Mechanisms:** Upon completion of this course, students should be able to: solve by graphical methods, and check by analytical methods, problems concerning the motion of machine elements, including the displacement, velocity and acceleration of points and lines within these elements; design the motion scheme part of Machine Design by graphical methods of cams, belts, pulleys, gears and linkages. Prerequisites: DFT 3405 and MEC 4508. (2-6) 4

**MEC 4425 Thermodynamics:** Upon completion of this course, students should be able to: explain the basic laws of thermodynamics; define the technical terms used in thermodynamics; write the general energy equations in both word and algebraic form; use these equations for solving typical problems; work typical problems using both the English and S.I. unit systems. Prerequisites: PHY 1405 and MAT 3508. (3-3) 4

**MEC 4434 Hydraulics and Pneumatics:** Upon completion of this course, students should be able to: perform certain computations related to hydrostatics, hydrodynamics and the general gas law; draw hydraulic symbols; make sketches of and explain how the following hydraulic and pneumatic system components work: fluid power pumps and motors, hydraulic cylinders and rams, fluid reservoirs, plumbing and related components, pressure, flow and directional control valves; design and troubleshoot simple hydraulic circuits. Prerequisite: PHY 1405 or program director approval. (2-6) 4

**MEC 4508 Applied Mechanics:** Upon completion of this

course, students should be able to: solve problems pertaining to force systems; calculate the location of centroids and centers of gravity; draw free-body diagrams; analyze forces in simple trusses and frames; calculate friction; compute the moment of inertia of areas and bodies; construct shear and moment diagrams; solve problems related to the kinetics of particles and rigid bodies; apply the laws of force and motion; perform calculations related to work, energy and power. Prerequisites: PHY 1405 and MAT 3507. (3-6) 5

**MEC 4-94 Independent Study:** This course is designed to provide students with the opportunity to develop a special programs of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the sponsorship of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 credits)

**MEC 4514 Physical Metallurgy I:** Upon completion of this course, students should be able to: describe typical testing equipment and its use; explain atomic and molecular structure of metals; discuss plastic deformation, annealing and hot working; work binary phase diagram problems; perform hardness, impact and tensile tests; prepare and photograph metallographic specimen; identify the various microstructures of steel and discuss their properties; describe the various heat treatments and their effects on carbon steel; explain the various surface hardening treatments, their methods and their results; discuss the properties of alloy steels, tool steels and cast irons. (4-3) 5

**MEC 4515 Physical Metallurgy II:** Upon completion of this course, students should be able to: explain the properties of nonferrous materials; discuss the production, properties and uses of nonferrous materials; discuss the production, properties and uses of powder metals; discuss the effect of high and low temperatures on metallic structures; explain the three mechanisms of wear and their effects on various systems; discuss the various types of corrosion and means of combating each; describe the methodology of failure analysis; examine a case history of a failure analysis and determine a plausible cause of failure; discuss the four major types of failure; calculate critical crack lengths leading to rapid fracture; describe the three fracture zones in a fatigue failure criteria; explain the use of sacrificial action as a design factor; conduct simple corrosion tests; produce macrofractographs of failure surfaces; identify various modes of failure; explain the effects of stress concentrators and strength reducers; perform a simple failure analysis. Prerequisite: MEC 4514. (4-3) 5

**MEC 4604 Machine Design:** Upon completion of this course, students should be able to: design machine parts on the basis of function and strength of material calculations, such as fasteners, permanent joints, shafts and couplings, plain bearings, ball and roller bearings, belts and chains, gears, clutches and brakes, springs; select machine parts for a particular machine function by use of manufacturers' catalogs, manuals and periodicals; complete a design project. Prerequisites: DFT 3406, MEC 3524 and MEC 4514. (3-6) 3

**MEC 5214 Practical Metallurgy I:** Upon completion of this course, students should be able to: describe the production of iron and steel; discuss the major forming methods; explain the crystalline nature of metals; discuss basic testing procedures; describe the method and use of heat treating; perform hardness and tensile tests; produce a metallographic sample. (1-3) 2

**MEC 5215 Practical Metallurgy II:** Upon completion of this course, students should be able to: describe the method of



classifying steel; discuss the properties and use of cast irons; explain the importance of metallurgy on welding; describe the production and use of powder metal and nonferrous metals; perform simple heat treatments on plain carbon steel; identify unmarked materials. Prerequisite: MEC 5214. (1-3) 2

## Medical Office Assisting

**MED 3214 Medical Office Administration I:** Upon completion of this course, students should be able to: describe and demonstrate attitudinal and communication skills; supervisory skills, and housekeeping responsibilities; describe and demonstrate operation and use of office machines; maintain patient records accurately. Prerequisite: SEC 3400. (2-0-0) 2

**MED 3300 Drug Therapy:** At the completion of this course, students should be able to: identify major drugs and/or drug groups; recognize side effects; describe interaction of drugs; relate various methods of administration of drugs to reactions. Prerequisite: Fifth quarter standing or departmental approval. (3-0-0) 3

**MED 3304 Medical Terminology and Vocabulary I:** Upon completion of this course, students should be able to: read and understand medical terms; build medical terms from Greek and Latin prefixes, suffixes, word roots and combining forms; spell medical terms correctly; use a medical dictionary intelligently; use appropriate abbreviations and symbols. (3-0-0) 3

**MED 3305 Medical Terminology and Vocabulary II:** Upon completion of this course, students should be able to: pronounce and spell correctly certain medical terms; define medical terms as they pertain to anatomy, physiology and diseases, operations, tumors, drugs and related descriptive terms; demonstrate ability to build medical words and analyze word components. The above objectives will apply to the following systems: skin and breast, musculoskeletal, cardiovascular, blood and blood forming organs, respiratory, systemic diseases. Prerequisite: MED 3304. (3-0-0) 3

**MED 3306 Medical Terminology and Vocabulary III:** A continuation of MED 3305 with objectives applying to the following systems: neurological and psychiatric, urogenital, gynecological and obstetrics, endocrine, sense, digestive. Prerequisite: MED 3304. (3-0-0) 3

**MED 3315 Medical Office Administration II:** Upon completion of this course, students should be able to perform such duties as: handling mail and telegrams; making travel arrangements; purchasing supplies; maintaining office records; handling insurance information; assuming responsibility of telephone. Prerequisites: MED 3214 and MED 3404. (3-0-0) 3

**MED 3404 Medical Economics:** Upon completion of this course, students should be able to: keep a single entry set of books; maintain a checking account; follow an efficient billing schedule; compose effective collection letters; apply rules for telephone request for payment; handle special collection problems; explain medical fees and assist patients in planning financing of medical care. Prerequisite: Pre-entrance testing. (3-2-0) 4

**MED 4302 Medical Ethics and Law:** Upon completion of this course, students should be able to: describe the laws that govern the practice of medicine; differentiate between the various medical practice arrangements and their legal implications; describe each medical service available to the public in the community and the way each contributes to comprehensive care; explain the meaning of the A.M.A. Principles of Medical Ethics and discuss how each applies to the physician and the staff; list the Supreme Court decisions in which the Medical

directly involved.

(3-0-0) 3

**MED 5104 Medical Office Assisting Seminar:** This course of study will provide students with an opportunity to explore the personal and vocational responsibilities of a practitioner in the field of medical assisting. A discussion of the problems encountered during the practicum and solutions which may be applied will be shared. Corequisite: MED 5707. (1-0-0) 1

**MED 5204 Orientation to Health Careers:** Upon completion of this course, students should be able to: identify the important historical contributions to modern medicine; list the major allied health professions and qualifications and duties of each; evaluate emotional maturity and personality characteristics necessary for a successful health worker; set realistic goals based on results of their Cognitive Map Profile, interest testing, career exploration and qualifications. Prerequisite: Pre-entrance testing. (2-0-0) 2

**MED 5415 Advanced Medical Office Procedures:** Upon completion of this course, students should be able to: assist the physician and explain the preparation to the patient who is to have such advanced diagnostic procedures as chemotherapy, radiation and nuclear medicine; demonstrate correct methods of administering medication, restraining methods, growth patterns and collection of specimens for the pediatric patient; administer CPR. Prerequisite: Fourth quarter standing. (4-0-0) 4

**MED 5307 Medical Assisting Review:** This course provides medical assistants and medical assisting students an opportunity to review and prepare for the certification examination administered by the National Board of Medical Examiners in conjunction with the American Association of Medical Assistants. (3-0-0) 3

**MED 5390 Individual Study:** This course provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: Approval of the sponsor and department head. (3-0-0) 3

**MED 5400 Clinical Education A:** This course will involve the identification of a problem in a pre-arranged medical agency; the collection and analysis of data and the presentation of findings. Students must obtain prior approval by the instructor. Prerequisite: Seventh quarter standing. (3-0-10) 4

**MED 5514 Symptomology:** Upon completion of this course, students should be able to assess signs and symptoms of disease and take appropriate action when dealing with patients in a medical facility. Problem solving techniques will be utilized. Prerequisite: Fifth quarter standing or departmental approval. (5-0-0) 5

**MED 5614 Laboratory Procedures:** Upon completion of this course, students should be able to: cite the laboratory rules of safety; handle the equipment and reagents in a safe, responsible manner; identify the equipment, glassware and supplies by sight and use; demonstrate the basic knowledge of the simple laboratory tests done in a physician's office by performing the test with accuracy, speed, personal integrity and complete honesty. Prerequisite: Completion of first two quarters. Corequisite: MED 5704. (3-6-0) 6

**MED 5615 Clinical Education B:** This course will involve the identification of a problem in a pre-arranged medical agency; the collection and analysis of data and the presentation of findings. Students must obtain prior approval by the instructor.

tor. Prerequisite: Seventh quarter standing. (3-0-30) 6

**MED 5704 Examination Room Procedures:** Upon completion of this course, students should be able to: maintain a physician's office in regard to the housekeeping, ordering supplies, keeping equipment in good repair and carrying out medical asepsis; assist the physician with physical examinations and minor surgery; perform and assist with certain diagnostic procedures; administer medications by the methods commonly used by the medical assistant in the physician's office. Prerequisite: Completion of first two quarters. Corequisite: MED 5614. (3-8-0) 7

**MED 5707 Medical Office Practice:** This course is a practicum in Medical Office Assisting. Each student is assigned to a physician's office, clinic or out-patient department. Upon completion of this course, students should be able to: perform the duties of the medical assistant as they apply to the assigned office; demonstrate professional and communication skills necessary for the effective care of the patient; express an understanding of the practice of comprehensive health care in the community. Prerequisite: MED 5104, fourth quarter standing. (0-0-21) 7

## Medical Transcription

**MET 3204 Medical Transcription Seminar:** At the completion of this course, students should be able to: identify problems that may arise when working as a Medical Transcriptionist; suggest ways to solve these problems in a manner in keeping with the professional worker; express increased knowledge of basic procedures and understanding of the medical practice gained by reviewing and sharing experiences and oral reports. Corequisite: MET 3505. (2-0-0) 2

**MET 3400 Introduction to Medical Transcribing:** In this course, students will be introduced to material that is routinely transcribed in a medical office. Upon completion of this course, they should be able to transcribe given medical material accurately. Prerequisites: MED 3304 and SEC 3404. (2-4-0) 4

**MET 3406 Clinical Practice II:** The practice of medical transcription in a physician's office or hospital record room. At the completion of the course, students should be able to: operate transcription equipment efficiently; demonstrate competency in transcribing medical reports; establish positive rapport with co-workers; utilize and organize time to best advantage. Prerequisite: MET 3904. (0-0-12) 4

**MET 3505 Clinical Practice I:** The practice of medical transcription in a physician's office or hospital record room. At the completion of the course, students should be able to: operate transcription equipment efficiently; demonstrate competency in transcribing medical reports; establish positive rapport with co-workers; utilize and organize time to best advantage. Prerequisite: MET 3904. (1-0-12) 5

**MET 3904 Transcription:** At the completion of this course, students should be able to: demonstrate operation of dictating machines correctly and efficiently; given practical situations, identify ethical and legal aspects of medical transcription; given worksheets, demonstrate competency in the use of dictionaries, PDR, and other references; transcribe medical reports and correspondence from a cassette, record or belt into a final typed mailable and permanent form in an assigned length of time; given discussion and medical terms, relate the disease process with diagnostic and therapeutic procedures and with the anatomical parts involved; given transcribed medical reports, read

and explain the content of the report. Prerequisite: MET 3400. (4-10-9) 9

## Management

**MGT 2314 Principles of Management:** An introductory course in business management principles. Upon completion of this course, students should be able to: describe the functions of managers; define management planning; recognize sound business objectives; illustrate organizational charts; design a staffing program; explain and apply leadership and decision-making to business cases; identify control measures useful to business operations. Prerequisite: BUS 1400. (3-0) 3

**MGT 3303 Small Business Management:** A course designed for those who may want to start and operate their own business as well as those who are already business owners but wish to strengthen their entrepreneurial and management skills. Upon completion of this course, students should be able to: assess the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; explain the techniques and principles of planning, organizing, directing and controlling the operating venture; explain the methods of operating the three basic types of small businesses—retail stores, service businesses and small manufacturing plants. (3-0) 3

**MGT 3331 Preparing Women as Managers:** A course which examines in depth the role of women as business managers. Upon completion of this course, students should be able to: recognize the basic management functions; demonstrate an understanding of the effect of socialization of women on their management performance; demonstrate decision-making abilities; implement listening, verbal and non-verbal communications techniques; apply time management skills; delineate current EEO laws affecting women in business; employ specific career strategies toward career goal attainment. (3-0) 3

**MGT 3332 Career Planning for Business Women:** A course designed allow students to experience a sequential career planning process. Upon completion of this course, students should be able to: conduct a skill evaluation and interest survey; employ market research; develop decision-making and career attainment procedures; analyze career and family relationships; appraise life changes; dramatize job interview and contract negotiation situations; review the concepts of professionalism and advancement strategies. EEO concepts will be integrated into learning activities. (3-0) 3

**MGT 4330 Supervision:** An introductory course in application of management principles and concepts to first-line supervisory positions. Upon completion of this course, students should be able to: identify the position of the supervisor in the management structure; discuss the unique interpersonal relations required of the supervisor; identify manpower management techniques; explain the concept of job analysis and evaluation; describe supervisory leadership techniques for various job groups; evaluate the supervisor's role in labor relations. (3-0) 3

**MGT 4331 Administrative Office Management:** A course applying the principles and techniques of management to the flow of information within an enterprise. Upon completion of this course, students should be able to: explain the application of principles of management to office organization; design an office layout; describe the psycho-physiological factors in office design; analyze the lease-buy decision on equipment and facili-



ties; design a basic word processing system. (3-0) 3

**MGT 4332 Personnel Management I:** An introductory course in the field of human resources management. Upon completion of this course, students should be able to: describe the application of management principles to human resources; describe the history of personnel management; list and describe sources used in internal and external recruiting; design a personnel selection procedure; formulate employee and management development plans; identify systems used for employee performance evaluation. (3-0) 3

**MGT 4333 Production, Planning and Control:** A course providing a survey of the planning, function and control of the production process in a manufacturing organization. Upon completion of this course, students should be able to: recognize and explain the underlying principles of production management; identify and illustrate the planning concepts used in a production system; demonstrate the scheduling of machine and personnel assets; explain the process of inventory control; outline the procedures used in quality control. (3-0) 3

**MGT 4334 Management Seminar:** A course for advanced management students to expand knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to practical situations through the techniques of lecture, case study, role playing and critical incident analysis. Upon completion of this course, students should be able to: demonstrate improved deductive and decision making capabilities through solution of case problems; identify a logical problem solving technique; extract the critical incidents in a problem situation bearing on managerial success; develop a conceptual base for organization-wide problem solving and analysis. Prerequisite: MGT 2314, MGT 4330, MGT 4331, MGT 4332 or consent of division head. (3-0) 3

**MGT 4337 Personnel Management II:** A course providing a continuation of the study of basic personnel management practices. Upon completion of this course, students should be able to: define the factors in organizational climate; identify the channels of management communications; review the concept of managerial leadership; interpret the importance of labor relations in human resources management; design a basic wage and salary plan; outline a basic security and benefit system; and identify the role played by EEO, safety and health and financial incentive plans in personnel management. Prerequisite: MGT 4332. (3-0) 3

**MGT 5200 Shop Management:** A course designed to introduce the trade student to the business world and to the operation of a small business. Upon completion of this course, students should be able to: describe the importance of the small shop in the economic system; identify problems in small business operations; assemble a set of guidelines for starting a small shop; recognize the importance of business law and the maintenance of business forms and records; gain an appreciation for the role of location, taxes, inventory, advertising and employee relations in the success of a small shop. (2-0) 2

## Marketing And Retailing

**MKT 1304 Marketing I:** This course is the first of a two-part study of Marketing. Upon completion, students should be able to: explain the importance of marketing in our economic system; explain the marketing concept and the environmental and technological factors' impact on this concept; describe buyer behavior from economic, psychological and sociological points of view; identify and classify marketing activities; distinguish

among the various marketing research methods; classify products; explain product pricing and distribution strategies and their relation to the marketing process. (3-0) 3

**MKT 1305 Marketing II:** Upon completion of Marketing II, the second of the two-part course, students should be able to: explain promotion, pricing and distribution and their place in the marketing process; recognize marketing's place in current society and discuss contemporary issues; explain the growth in and importance of international marketing as well as the significance of the balance of payments; explain a fully integrated marketing program; explain the significance of the computer as a tool in the marketing process; recognize career opportunities in marketing. Prerequisite: MKT 1304. (3-0) 3

**MKT 3200 Cooperative Education Orientation:** Upon completion of this course, students should be able to: be aware of and demonstrate an ability to comply with accepted business behaviors; complete a resume and employment application in an acceptable manner; participate in an employment interview; obtain employment suitable for the cooperative experience. (2-0) 2

**MKT 3204 Cooperative Education I:** Upon completion of this course, students should be able to: perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee. Prerequisites: MKT 3200. (2-0) 2

**MKT 3205 Cooperative Education II:** Upon completion of this course, students should be able to: perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee. Prerequisites: MKT 3200 and MKT 3204. (2-0) 2

**MKT 3206 Cooperative Education III:** Upon completion of this course, students should be able to: perform with greater competence in the particular work-related skills involved in the specific job held; evaluate their own interest and performance in the given occupational field and their potential success and advancement in that occupation; assess realistically the general requirements and responsibilities of successful employment and evaluate their own capacity to comply with such demands; analyze the job market in their chosen career prior to entrance into that career as a full-time employee. Prerequisites: MKT 3204 and MKT 3205. (2-0) 2

**MKT 3314 Applied Retail Calculations:** Upon completion of this course, students should be able to: maintain records; determine prices; compute reimbursement; prepare a sales check; compute time payments; compute employee discounts; effectively use cash register and prepare related reports; use inventory methods; and compute open-to-buy, stocks-to-sales ratios, and shipping costs from terms on invoices. Prerequisite: FIN 3314. (2-4) 3

**MKT 3320 Fundamentals of Selling:** This course is designed to provide students with a general survey of the various

careers in selling and provide a thorough study of the selling process from preparation to closing of the sale. Upon completion, students should be able to: collect proper data and prepare for a sales interview; conduct a successful sales interview including the approach, presentation, demonstration, meeting objections and closing; instill confidence and trust in the prospect by exhibiting confidence as a result of proper preparation. Prerequisite: None, but SPH 1300 is recommended. (3-0) 3

**MKT 3330 Introduction to Textiles:** Upon completion of this course, students should be able to: list and explain the physical properties of fibers; characterize and differentiate between major fiber groups; explain methods of fiber construction; differentiate between yarn types and explain their production; explain the methods used to add color and special finishes to fabrics. (3-0) 3

**MKT 4305 Advanced Selling Skills:** This course is a follow-up course for MKT 3320 and teaches alternative selling skills. Upon completion of this course, students should be able to: develop strategic selling knowledge; plan methodically for a sale; focus on a dominant sales theme; use the cybernetic model; use the trait development plan; use persuasive strategies; apply decision theories to buyers' behavior; apply various prospecting methods; use planning aids; use alternative approaches; set objectives for a presentation; use visual devices in a presentation; understand the psychology of objections; customize a close; apply acceptable business ethics to sales situations. Prerequisite: MKT 3320. (3-0) 3

**MKT 4320 Retailing:** Upon completion of this course, students should be able to: differentiate between various types of retailers; evaluate franchises, including the contract, possible locations and potential store functions and personnel; explain the buying function and role of resident buying offices; apply merchandise pricing principles and formulas; schedule and plan merchandise handling areas; explain and evaluate various store security methods; discuss the role and importance of retail advertising and plan a store promotional activity; identify display material and techniques; complete a retail sale; explain credit and collection procedures. (3-0) 3

**MKT 4321 Advertising:** This course is designed to instruct the usage of advertising as a marketing tool. Upon the completion, students should be able to develop an advertising plan based on marketing objectives for a specific product or service. This course excludes the implementation of creative strategies. Prerequisite: None, but MKT 1304 recommended. (3-0) 3

**MKT 4322 Purchasing:** Upon completion of this course, students should be able to: define the purchasing function; describe purchasing's role in business; recognize the importance of quality assurance; explain the role purchasing plays in deciding to make or buy; discuss its relationships to other company departments; describe the importance of planning and forecasting; interpret the ethics of purchasing; develop the legal aspects of purchasing; explain the need for evaluating purchasing performance; describe EDP's usefulness in purchasing; detail the development of both the organization and personnel for purchasing; conduct purchasing computer simulation for retail firm; apply purchasing formulas and methods for cost analysis. (3-0) 3

**MKT 4325 Sales Management:** Upon completion of this course, students should be able to: explain the organization and functions of territorial district, regional and company sales management; know the difference between various types of sales organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting;

record and file an expense account; make sales forecasts. Prerequisite: MKT 3320 or instructor permission. (3-0) 3

**MKT 4340 Department Store Merchandising:** Upon completion of this course, students will be able to: describe the buying function and its relationship to other functional activities in the business; describe the similarities and differences of the buyer's responsibilities in departmentalized stores, centralized chain offices and resident buying offices; identify the staff departments that service and support selling and sales promotion activities; identify the merchandising techniques and information sources that are used in determining what and how much to buy; identify criteria used in the selection of resources. (3-0) 3

**MKT 4355 Channels of Distribution:** This course is designed as an in-depth study of marketing channels and the appropriate choice of channels for distribution of various products. Upon completion of this course, students should be able to: define and apply channel management techniques, taking into consideration corporate objectives and environmental factors; design a channel for various products; understand logistics, sales and operation policies. Prerequisite: MKT 1305. (3-0) 3

**MKT 4354 Display and Design:** Upon completion of this course, students will be able to: discuss the importance of display design as a visual merchandising medium and its use as a sales supporting activity; understand the basic principles and elements of design that are applicable to display design; differentiate between different types of displays and be familiar with display organization, policies and procedures; discuss the display and design person's responsibilities and interrelationships with various departments; apply the physical elements of display compositions and arrangements. Prerequisite: MKT 4320. (3-0) 3

**MKT 4360 Supermarketing I:** Upon completion of this course, students should be able to: trace the history of, depict the current status of, and describe future trends in the grocery industry; delineate and describe food distribution channels; explain the role of and reasonable expectations for profit margins; describe psychographically the supermarket customer; demonstrate a thorough working knowledge of the grocery department. (3-0) 3

**MKT 4364 Supermarketing II:** Upon completion of this course, students should be able to: describe the functions of, draw a layout of, do a purchasing plan for, and hire personnel for, the meat, produce, dairy, frozen foods, bakery, deli, and front-end departments. Prerequisite: MKT 4360. (3-0) 3

**MKT 4365 Supermarket Law:** Upon completion of this course, students should be able to: describe the basic components and mechanics of our legal system; explain requirements for compliance with EEOC regulations, unions, contracts and the laws affecting them; explain product liability and torts. (3-0) 3

**MKT 4374 Food Merchandising:** Upon completion of this course, students should be able to: describe the relationship between food merchandising and the consumer; explain buying's resultant effect on pricing; describe the effect and purposes of advertising, promotion, display and layout; demonstrate a working knowledge of regulations affecting food merchandising; explain the importance and methods for profit planning and control. Prerequisite: MKT 4384. (3-0) 3

**MKT 4384 Customer Relations:** Upon successful completion of this course, students should be able to: explain the importance of customer relations in the food industry; know



how to plan for the customer through physical store layout, stock and special services; plan the advertising for a store; explain consumerism and its effect on various levels of employees. Prerequisite: MKT 4365. (3-0) 3

## Medical Record Technology

**MRT 3201 Orientation to Medical Record Technology:** Upon completion of this course, students should be able to: describe the duties and educational requirements of the major allied health professional; explain the functions of the major departments of a hospital; match the allied health professional to the hospital department; trace the historical development of medicine, health care facilities, and medical records; describe the structure of the AMRA, its history and categories of membership; define "professionalism"; discuss the characteristics and qualities of a professional; describe the attributes of a good self-image; discuss the new trends in health care delivery system; identify at least ten health agencies and cite the purpose of each; describe the basic functions of a medical record department; discuss the various job opportunities of the ART; correlate the courses in the MRT program with the appropriate job responsibilities in the medical record department. Prerequisite: Pre-entrance testing. (2-0-0) 2

**MRT 3204 Directed Practice I:** This is the first in a series of four courses which provide supervised clinical learning experiences in local health care facilities. Students should be able to demonstrate competently the ability to: communicate effectively with others; accept the personal responsibilities of promptness, personal neatness and learning of departmental medical record procedures and practices; apply the theory of medical record practices acquired in MRT 3300 and MRT 4404 by performing various medical record skills as provided in the general hospital. Corequisite: MRT 4315, third quarter standing, or departmental consent. (0-0-6) 2

**MRT 3205 Health Record Procedures I:** Upon completion of this course, students should be able to: describe the four major types of health care facilities; identify major allied health professionals; describe the three basic types of numbering methods utilized; state the purpose of the Master Patient Index; describe two methods for arranging patient index cards; describe three formats of the medical record; list six purposes of the medical record; identify forms included in a medical record and the individual responsible for completing each form; assemble five records in the prescribed order accurately. (1-2-0) 2

**MRT 3206 Health Record Procedures II:** Upon completion of this course, students should be able to: recognize when a record is technically incomplete; perform the analysis of five records accurately; describe the three basic methods of filing; apply the basic principles for filing; describe the two basic types of filing equipment; list four steps to be followed to insure accurate filing; list three examples of filing supplies used to assist the file clerk; describe the steps in preparing a record for microfilming. Prerequisite: MRT 3205. (1-2-0) 2

**MRT 3300 Medical Record Content and Maintenance:** Upon completion of this course, students should be able to: describe various numbering and filing systems (advantages/disadvantages); retrieve and file medical records by each of the three major filing systems; describe the value, uses and contents of medical records; identify and describe the contents of various medical record forms; perform assembly and quantitative analysis of the medical record; describe the three basic formats of

medical records; describe the different methods of record storage. Prerequisites: MRT 3201 and SEC 3404. (2-2-0) 3

**MRT 3301 Quality Assurance in Health Care Facilities:** Upon completion of this course, students should be able to: state the purpose and philosophy of quality assurance; discuss the impact of current health legislation on quality assurance; discuss the history and current status of quality assurance; describe the organization of the Professional Standards Review Organization system; state the JCAH and federal requirements for quality assurance; diagram the medical audit cycle and describe the activities which take place at each point in the cycle; perform audit steps of data collection and display utilizing various types of formats; discuss and perform the basic medical record procedures related to patient review procedures. Prerequisites: MRT 3300, MRT 3302, MRT 4315 and MRT 4404; Corequisite: MRT 3302 or departmental consent. (2-2-0) 3

**MRT 3302 Basic ICD-9-CM Coding:** Upon completion of this course, students should be able to: discuss the evolution of ICD-9-CM; define the symbols, abbreviations and conventions used with ICD-9-CM; apply the coding principles of ICD-9-CM with 80% accuracy; code and retrieve diagnoses and procedures proficiently. Prerequisites: BIO 1504, BIO 1505, MED 3305, MED 3306 and MRT 3300. (2-2-0) 3

**MRT 3303 Advanced Computer Concepts:** Upon completion of this course, students should be able to: apply ICD-9-CM principles in coding medical records; develop procedures for quality control of coding; discuss the methods for indexing diagnoses and operations; index diagnoses and operations manually; discuss the prospective payment system and its relationship to coding practices; define the terms related to the prospective payment system; determine the diagnostic related group number for a given sample of medical records; discuss the purposes of nomenclatures and classification systems; describe the basic principles for utilizing various nomenclatures and classification systems; apply the coding principles of a variety of nomenclatures and classification systems; identify the health care facilities utilizing each of the systems. (2-2-0) 3

**MRT 3414 Medical Record Statistics:** Upon completion of this course, students should be able to: compute the various hospital statistics and prepare reports; define all terms related to hospital statistics; discuss the procedures for completing vital statistics on births, deaths and reportable diseases; discuss the sources and use of health data; cite the major functions of a Cancer Registry; collect and process data as required in a Cancer Registry. Prerequisites: MRT 3300, FIN 3314 and MRT 3302. Corequisite: MRT 4206 or departmental consent. (2-4-0) 4

**MRT 3424 Principles of Disease:** Upon completion of this course, students should be able to: classify disease processes according to their etiology and organ system involvement; discuss the physical signs and symptoms, complications and preferred treatment of specific disease processes. Prerequisites: BIO 1504, BIO 1505, MED 3305 and MED 3306. (4-0-0) 4

**MRT 4205 Directed Practice II:** This is the second in a series of four courses which provide supervised clinical learning experience in a local health care facility. Students should be able to communicate effectively with others; accept the personal responsibilities of promptness, personal neatness and learning of departmental record procedures and practices; apply the theory of medical record practices acquired in MRT 3300, MRT 4315 and MRT 4404. Prerequisites: MRT 3204 and MRT 4404. Corequisite: MRT 3302, fourth quarter standing, or departmental consent. (0-0-6) 2

**MRT 4206 Directed Practice III:** This is the third in a series

of four courses which provide supervised clinical learning experience in a local health care facility. Students should be able to communicate effectively with others; accept the personal responsibilities of promptness, personal neatness and learning of departmental record procedures and practices; apply the theory of medical record practices acquired in MRT 3300, MRT 4315, MRT 4404, MRT 3301 and MRT 3202. Prerequisites: MRT 3302 and MRT 4205. Corequisites: MRT 3414 and MRT 3300, fifth quarter standing, or departmental consent.

(0-0-6) 2

**MRT 4315 Medical Record Standards and Regulations:** Upon completion of this course, students should be able to: identify the major accrediting and licensing agencies and the purpose of each; discuss the role of the JCAH; cite the medical record standards set forth under Medicare/Medicaid and JCAH; describe the various types of long-term care facilities and medical record standards; recognize the basic standards for the various hospital departments with emphasis on the medical record regulations. Prerequisites: MRT 3300 and MRT 4404.

(3-0-0) 3

**MRT 4390 Individual Study:** Upon completion of this course, students should be able to meet the objectives outlined by the student and instructor to meet particular student needs not provided in other courses of study. Prerequisite: program director approval.

(3-0-0) 3

**MRT 4404 Legal Aspects of Medical Records:** Upon completion of this course, students should be able to: discuss the jurisdiction of the Federal and State courts; describe the laws written by non-governmental bodies which affect the medical records; describe the property rights and ownership of the medical record; discuss the medical record as a legal document; discuss contents, authorization and releases of medical information; describe statutes and hospital policies which govern the uses of medical records and the information contained in them; discuss the current health legislation which affects the medical record practitioner. Prerequisite: COM 1304. Prerequisite or corequisite: MRT 3300.

(3-2-0) 4

**MRT 4505 Medical Record Seminar:** Upon completion of this course, students should be able to: discuss the various personal and vocational responsibilities of the medical record practitioner; analyze problems which are encountered as a medical record practitioner and discuss solutions; discuss various sources of information and assistance which are available to the practicing medical record professional. Prerequisite: completion of all MRT courses. Corequisite: MRT 4704, sixth quarter standing or departmental consent.

(5-0-0) 5

**MRT 4704 Directed Practice IV:** Upon completion of this course, students should be able to: describe the medical record functions as they relate to mental health facilities, long-term care facilities, group practices, rehabilitation centers, specialty hospitals and neighborhood health centers; discuss the role of the medical record technician in various types of health care facilities; perform the medical record skills as specific to these health care facilities; demonstrate positive rapport with personnel. Prerequisite: completion of all MRT courses. Corequisite: MRT 4505, sixth quarter standing or departmental consent.

(0-0-21) 7

## Music

**MUS 1100 Vocal Ensemble:** This performing laboratory will prepare students for public performance at the end of the session. Emphasis is upon sight-singing, demonstration and use of proper vocal techniques, tonal production and ensemble

performance. Each student will be given the opportunity to perform representative compositions from the major periods in music.

(0-3) 1

**MUS 1104 Class Voice:** Upon completion of this course, students should be able to: demonstrate correct posture, breathing and support for the resonance of vowels, proper diction; perform selected pieces from song literature.\*

(0-2) 1

**MUS 1105 Class Voice II:** Upon completion of this course, students should be able to perform from memory in recital an art song, aria, and other song demonstrating an understanding of acceptable performance standards, musical styles, translations, and the use of the International Phonetic Alphabet.

(0-2) 1

**MUS 1107 Chamber Choir:** This is a practical performing class designed to acquaint students with various styles of choral music culminating in a public performance at the end of the session. The program may vary each quarter depending upon vocal abilities and size and balance of choir. Emphasis is placed upon correct tonal production, proper vocal techniques, sight-reading, ensemble performance, and repertoire.

(0-3) 1

**MUS 1112 Class Strings:** Students will study the principles and techniques of playing the violin, viola, cello and double bass.\*

(0-3) 1

**MUS 1117 Wind Ensemble:** An organization designed to provide the opportunity for wind instrument students to continue the study of their particular instruments and to become familiar, through ensemble performance, with music of various composers, periods and styles. (Credit cumulative not to exceed six quarter hours.)

(0-3) 1

**MUS 1122 Fiddle—Blue Grass and Old-Time:** Upon completion of this course, students should be able to: tune and maintain their instruments; demonstrate a working knowledge of chords; play a minimum of ten songs; accompany other musicians; demonstrate the ability to read music.

(0-3) 1

**MUS 1127 Orchestra:** An organization designed to provide continuing performance opportunity for students who have already developed some skills on an orchestral instrument. Emphasis will be placed on further development of each student's playing ability and an acquaintance with orchestral literature.

(0-3) 1

**MUS 1128 Concert Band:** An organization designed to provide performance opportunity for students who have already developed skills on a band instrument. Emphasis is placed on further development of skills on particular instruments as well as acquaintance with band literature.

(0-4) 1

**MUS 1132 Introduction to Sight Singing and Ear Training:** A class designed to acquaint students with the principles of solfege and pitch organization, rhythmic patterns and basic harmonic progression. Upon completion of this course, they should be able to recognize and transcribe intervals, diatonic melodies, simple rhythms and basic chord progressions.

(0-2) 1

**MUS 1133 Banjo—Old-Time Music:** Upon completion of this course, students should be able to: tune the banjo in G, C and C minor; use a capo for additional tunings; demonstrate the basic chord position in the three main tunings; play with a rhythmic clawhammer style including the drop thumb technique; coordinate left and right hands without difficulty; play selected tunes in the text from memory; demonstrate the ability to read tablature from the text.

(0-3) 1

**MUS 1136 Clawhammer Banjo II:** Upon completion of this



course, students should be able to: play in at least five tunings comfortably with the use of a capo; play the most common fingering patterns in each tuning; play traditional tunes up to tempo; play selected tunes from memory; demonstrate the ability to write simple tablature. (0-3) 1

**MUS 1139 Old-Time Music "Jam":** Upon completion of this course, students should be able to: participate actively as a performer in an old time music "jam"; demonstrate skills in performing, both vocally and on instruments of their choice; demonstrate poise and skill in leading the class in specific music; demonstrate an acquaintance with several kinds of "traditional" music. (0-3) 1

**MUS 1154 Class Piano I:** In an electronic piano laboratory setting, students will receive group instruction in the basic principles and techniques of piano playing for the beginning student. Upon completion of this course, students should demonstrate ability: in playing and spelling pentachords chromatically in all major keys; in playing the chord progression I-IV6/4-V6/5 and simple two-hand compositions in keys of C and G; in sightreading and improvisation; in identifying intervals through the sixth. (0-3) 1

**MUS 1155 Class Piano II:** A continuation of MUS 1154. Students will be introduced to and demonstrate mastery of major tetrachord scales and key signatures, chord progression I-IV6/4-V6/5 in all white keys, traditional scale fingerings in C, more advanced repertoire, sightreading, and improvisation primarily in keys of C, F and G. (0-3) 1

**MUS 1156 Class Piano III:** A continuation of MUS 1155 consisting of an integrated study of literature and theory. Upon completion of this course, students should be able to play—in addition to a number of pieces—the chord progression I-IV6/4-V6/5 in all major keys, minor pentachords chromatically, the chromatic scale. They should know the principles of traditional scale fingerings in major keys, and show some mastery of the damper pedal. (0-3) 1

**MUS 1157 Intermediate Piano:** Upon completion of this course, students should have developed skills in reading, technique, theory and musicianship needed to play a number of pieces selected from standard piano literature. (0-3) 1

**MUS 1160 Classical and Flamenco Guitar:** Upon completion of this course, students should be able to read guitar music, play major and minor chords, some seventh chords and perform selected solos by Bach, Beethoven, Torego, Aguado and Lorí. They should also be able to perform right and left hand classical technique Carcassi studies and right hand studies in the tremolo technique and flamenco strums and rasguados.\* (0-3) 1

**MUS 1164 Guitar:** Upon completion of this course, students should be able to: read guitar music in the first position; perform a selected number of guitar solos, single note passages and duets. They should also be able to play chords in the first position and be able to transpose to other selected keys.\* (0-3) 1

**MUS 1165 Guitar II (Intermediate):** Upon completion of this course, students should be able to: read blocked and arpeggiated chords, demonstrate ability to play both a melody and accompanying arpeggio pattern; perform a selected number of etudes; arrange for solo guitar a song (or songs) to include melody with accompaniment; demonstrate increased ability to read single line. (0-3) 1

**MUS 1166 Folk Music Guitar I:** Upon completion of this course, students should be able to: play a select number of basic chords; use different strumming techniques; play simple accom-

paniments of folk songs for singers; read simple folk music for guitar; demonstrate a general knowledge about the instrument and its historical development. (0-3) 1

**MUS 1167 Folk Music Guitar II:** Upon completion of this course, students should be comfortable with their instruments and be able to join in informal "jam" sessions with other folk musicians using basic chords and notes. They should be able to play at an intermediate level and will have accumulated a sizeable collection of traditional folk music. (0-3) 1

**MUS 1171 Chords I:** Upon completion of this course, students should be able to: translate standard chord symbols into notes and play them on the keyboard; supply the proper symbol for any given chord; reharmonize simple tunes and reduce them to lead sheets. (0-2) 1

**MUS 1172 Chords II:** Upon completion of this course, students should be able to: interpret and play most standard lead sheets; reharmonize given melodies both in writing and on the keyboard; transpose to any given key. (0-2) 1

**MUS 1188 Hammered Dulcimer:** Upon completion of this course, students should be able to tune the instrument and demonstrate use of the basic hammering techniques using simple tunes. (0-3) 1

**MUS 1189 Autoharp:** Upon completion of this course, students should be able to: tune and properly maintain the autoharp; demonstrate the ability to hold the autoharp properly and to change chords with facility; demonstrate an understanding of rhythm, meter, pitch; demonstrate skills in playing, strumming and picking patterns; demonstrate ability to play with music and "by ear"; demonstrate skills necessary for basic melody picking. (0-3) 1

**MUS 1304 Children's Music I:** Upon completion of this course, students should be able to: plan a music program for young children (ages infant to 10 years); display working knowledge of fundamentals of music; play autoharp, rhythm band and Orff instruments; develop a resource file of methods and materials.\* (3-0) 3

**MUS 1305 Children's Music II:** A continuation of MUS 1304. In addition, students should become familiar with children's song literature, recordings and basic trends in music education. Each student will be responsible for making observations of various music programs in the community. Prerequisite: MUS 1304.\* (3-0) 3

**MUS 1310 Introduction to Music Theory:** A beginning or refresher course for students with little or no keyboard background, this course should prepare students for Music Theory I. Included are the fundamentals of music theory, notation, major and minor scales, intervals and basic chord structure. Upon completion of this course, students should demonstrate a better understanding of the basic principles and application of music theory. (3-0) 3

**MUS 1314 Music Appreciation I:** Upon completion of this course, students should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology, form and history. This perspective should enable each student to be an informed listener. (3-0) 3

**MUS 1315 Music Appreciation II:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the romantic and classical periods. (3-0) 3

\*Does not meet humanities requirement.

\*Does not meet humanities requirement.

**MUS 1316 Music Appreciation III:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the baroque and contemporary periods. (3-0) 3

**MUS 1320 Music for Dancers I:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the romantic and classical periods. (3-0) 3

**MUS 1321 Music for Dancers II:** Upon completion of this course, students should have developed skills in basic listening and understanding of music from the baroque and contemporary periods. (3-0) 3

**MUS 1324 Recording Studio Techniques I:** The student will be introduced to the recording studio from an artistic and operational point of view, the operation and function of audio consoles, microphones, multi-track recorders, echo chambers and their relationship to the musician, sound engineer and producer.\* (3-0) 3

**MUS 1325 Recording Studio Techniques II:** This course is a continuation of MUS 1324 with observation of multi-track recording and mix-down, mike placement and patch bay functions. Students participate as producers, musicians, singers and back-up voices while the instructor directs their use of studio equipment. Prerequisite: MUS 1324.\* (0-6) 3

**MUS 1326 Recording Studio Techniques III:** This is the last of a series of three courses in Recording Studio Techniques. The course is predominantly a recording studio workshop whereby the student is given the opportunity to create and produce music, operate the console and tape recorders, and exhibit creativity in phases that hold the most interest. Prerequisite: MUS 1325.\* (0-6) 3

**MUS 1334 Music Manuscript I: Autography and Preparation:** This course is designed to teach serious students fundamental skills in music calligraphy including notational techniques, technical vocabulary, and editing procedures by which music is prepared for performance and graphic reproduction by autography. Prerequisite: Basic music literacy—approved by department head.\* (2-2) 3

**MUS 1335 Music Manuscript II:** This course should enlarge and develop the skills which the students have acquired in MUS 1334 with the addition of further techniques and specific problems encountered by the copyist. Prerequisite: MUS 1334.\* (2-2) 3

**MUS 1404 Music Theory I:** This course is concerned with the development of harmony dealing specifically with the principal triads including elementary work in melodic and rhythmic dictation, keyboard and sight singing. Students should be able to write a simple diatonic melody and harmonize it according to eighteenth century techniques upon completion of this course. Prerequisite: MUS 1310 or departmental consent. (3-2) 4

**MUS 1405 Music Theory II:** This course is a continuation of MUS 1404. The secondary triads and chord inversions are introduced in the development of harmony, advanced four-part writing, and more advanced work is done in dictation, keyboard and sight singing. Students should be able to write a four-voice chorale piece and analyze it upon completion of the course. Prerequisite: MUS 1404. (3-2) 4

**MUS 1406 Music Theory III:** This course is a continuation of MUS 1405. Minor keys and seventh chords are studied in harmony and more advanced work is done in dictation, keyboard and sight singing. Students should be able to analyze a diatonic piece in baroque style and write a song with piano

accompaniment upon completion of the course. Prerequisite: MUS 1405. (3-2) 4

**MUS 2000 Seminar in Music:** A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 1

**MUS 2100 Seminar in Music:** A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 1

**MUS 2154 Advanced Class Piano I:** Upon completion of this course, students should be able to harmonize simple tunes using secondary dominants and play a minimum number of technical studies and selected pieces of piano literature. (0-3) 1

**MUS 2155 Advanced Class Piano II:** A continuation of MUS 2154. This course emphasizes technical development and mastery of music from several historical periods. Students should be able to play three or more etudes and pieces studied by the entire class, and perform one or more pieces selected to improve or capitalize on individual pianistic ability. (0-3) 1

**MUS 2156 Advanced Class Piano III:** A continuation of MUS 2155. Technical and stylistic problems are dealt with both individually and collectively. Upon completion of this course, students should be able to perform one movement of a classical sonata, a baroque dance, and a romantic or contemporary work, or the equivalent. (0-3) 1

**MUS 2158 Piano Ensemble:** Designed for students having completed six or more quarters of piano, this class is an introductory study of piano literature requiring two or more persons performing on one or more pianos. Emphasis is upon ensemble performance, repertoire, sight reading and continued technique building. Prerequisite: departmental consent.\* (0-3) 1

**MUS 2200 Seminar in Music:** A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 2

**MUS 2201 Business of Music:** Upon completion of this course, students should be able to demonstrate, both orally and in writing, a basic understanding of Copyright Law, arrangements and abridgements of music, recording and songwriting contracts, agents and managers, performing rights organizations and the musician's union. (2-0) 2

**MUS 2202 Songwriting:** Upon completion of this course, students should be able to write melodies and themes to given texts and original texts. (2-0) 2

**MUS 2204 Special Problems in Music:** An advanced problems course in which the student will select a topic for independent study involving laboratory and library work. Prerequisite: approval of department head.\* (1-3) 2

**MUS 2257 Jazz Piano I:** Upon completion of this course, students should be able to construct jazz chords from written chord symbols on the keyboard, write these chords on manuscript paper and be able to take a standard popular tune and reharmonize it according to certain basic rules. (1-3) 2

**MUS 2258 Jazz Piano II:** Upon completion of this course, students should be able to reharmonize standard public domain tunes, create introductions, endings, modulations reflecting the state of the art. Prerequisite: MUS 2257. (1-3) 2

**MUS 2300 Seminar in Music:** A lecture-laboratory course

*\*Does not meet humanities requirement.*



devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA; credit 3

**MUS 2338 Opera Workshop:** This course is designed to help students gain knowledge in interpretation and style of operatic literature and gain experience through performance and opera productions. Registration upon consent of the instructor.\* (0-6) 3

**MUS 2404 History and Literature of Music I:** A study of music from ancient times through the Renaissance. Upon completion of this course, students should be able to trace the development of music—its styles and forms—from ancient times through the middle ages and the Renaissance to 1600. Students should know the major composers and should be able to identify some specific works of music and/or forms. Prerequisite: the ability to read music. (3-2) 4

**MUS 2405 History and Literature of Music II:** A study of music of the baroque and classical periods up through the early and middle works of Beethoven. Upon completion of this course, students should be able to describe the more important characteristics and forms, vocal and instrumental, of each period as represented especially in the works of Monteverdi, Corelli, Vivaldi, Bach, Handel, Haydn, Mozart and Beethoven, and should be able to identify some specific works. Prerequisite: the ability to read music. (3-2) 4

**MUS 2406 History and Literature of Music III:** A study of music of the romantic period beginning with late Beethoven and proceeding through the twentieth century. Upon completion of this course, students should be able to trace the major musical developments through the nineteenth and twentieth centuries with respect to melody, rhythm, harmony, form, instrumentation. Students should be acquainted with a variety of music by the major romantic and contemporary composers and be able to describe and distinguish style characteristics of a number of composers. Prerequisite: the ability to read music. (3-2) 4

**MUS 2407 Advanced Music Theory I:** A continuation of MUS 1406. Chromatic harmony is dealt with by way of secondary dominants and modulation. Phrases and periods are studied and work is continued in sight singing, dictation and keyboard. Upon completion of this course, students should be able to write a piece which modulates to another key and to analyze the phrase structure. Prerequisite: MUS 1406. (3-2) 4

**MUS 2408 Advanced Music Theory II:** A continuation of MUS 2407. Chromatic harmony is studied further by way of diminished seventh chords. Two and three part forms are discussed as well as advanced work in sight singing, dictation and keyboard. Upon completion of this course, students should be able to harmonize a modulating melody in baroque or classical style and analyze the form of a simple work from those periods. Prerequisite: MUS 2407. (3-2) 4

**MUS 2409 Advanced Music Theory III:** A continuation of MUS 2408. Chromatic harmony is dealt with in ninth and altered chords, modulation to distant keys, and twentieth century styles. Overall form is studied and work is continued in sight singing, dictation and keyboard. Upon completion of this course, students should be able to analyze harmonically and melodically works in traditional style and to write a piece incorporating the above in twentieth century style. Prerequisite: MUS 2408. (3-2) 4

\*Does not meet humanities requirement.

## Nurse Aide

**NUA 5501 Nurse Aide Skills I:** Upon completion of this course, students should be able to: provide for the hygienic needs of patients; provide a safe environment for patients; utilize principles of body mechanics in giving patient care; demonstrate the ability to perform basic nursing skills and procedures; demonstrate appropriate behavior in patient care setting; follow policies and procedures of the clinical agency. Prerequisite: Admission to program. Corequisites: NUA 5502 and NUA 5301. (3-0-6) 5

**NUA 5701 Nurse Aide Skills II:** Upon completion of this course, students should be able to: demonstrate effective working relationships in the clinical setting; appreciate the role of the nurse aide as a member of the health team; use appropriate terminology in reporting and recording; accept responsibility for own actions; recognize the special needs of patients; communicate appropriately in the clinical setting; recognize the implications of the grief process in relation to patient care. Prerequisite: Admission to program. Corequisites: NUA 5501 and NUA 5502. (3-0-0) 3

**NUA 5502 Nurse Aide Skills III:** Upon completion of this course, students should be able to: provide for the nutritional needs of patients; demonstrate the ability to meet special needs of patients in relation to elimination, skin care, oxygen therapy and other special therapies; meet the special needs of patients that relate to disease processes; identify and practice infection control measures. Prerequisite: Admission to the program. Corequisites: NUA 5501 and NUA 5301. (3-0-6) 5

## Nursing, Practical

**NUP 5104 Vocational Relationships:** Upon completion of this course, students should be able to: make application for licensure by examination and by endorsement; identify nursing organizations and their functions; follow appropriate procedures in seeking employment; identify the two roles of a Licensed Practical Nurse; relate specific legal aspects to nursing practice. Corequisites: NUP 5806 and NUP 5807. (1-0-0) 1

**NUP 5203 Orientation to Vocational Relationships:** Upon completion of this course, students should be able to: discuss the historical development of nursing; define health team, medical team and nursing team; set realistic standards for own achievement; list ethical and legal responsibilities in nursing. Prerequisite: Admission to program. Corequisite: NUP 5704. (2-0-0) 2

**NUP 5390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and department head is required. (3-0) 3

**NUP 5400 Basic Principles of Drug Administration:** Upon completion of this course, students should be able to: demonstrate competence in the use of the systems of measurements in computing drug dosage; follow established procedure in preparing oral and parenteral medications; identify various forms in which drugs are packaged; prepare drug cards utilizing appropriate information and resources; identify safety measures necessary in administration of drugs; identify action, side effects, common names and uses of specific drugs; classify drugs according to therapeutic purposes; list state and federal laws regulat-

ing the use of drugs. Prerequisite: NUP 5704; Corequisite: NUP 5904. (3-2-0) 4

**NUP 5704 Introduction to Patient Care:** Upon completion of this course, students should be able to: establish effective, professional relationships in the classroom and clinical setting; use proper body mechanics in carrying out patient care; identify basic nursing needs and implement measures necessary to meet these needs; provide safety and comfort measures for all patients; make accurate observations and report and record appropriately; maintain a therapeutic environment in the patient care setting; compute drug dosages; demonstrate basic nursing skills and procedures in caring for patients; follow policies and procedures of clinical agency. Prerequisite: Admission to program. Corequisite: NUP 5203. (3-4-6) 7

**NUP 5805 Care of Patients with Med/Surgical Conditions II:** Upon completion of this course, students should be able to: apply previously learned knowledge and skills in planning patient care for patients with Med/Surgical conditions; carry out aseptic technique in patient care; administer oral and parenteral medication; plan and implement patient care according to specific needs of patient; provide safe effective nursing care to selected patients with specific Med/Surgical conditions; demonstrate at all times a professional manner with patients, co-workers, instructors, nurses and medical staff; utilize the nursing process in developing a nursing care plan for selected patients; do an objective self-evaluation of their performance. Prerequisites: NUP 5400 and NUP 5904. Corequisite: NUP 5817. (3-4-9) 8

**NUP 5806 Care of Infants and Children:** Upon completion of this course, students should be able to: provide safe nursing care for children from infancy through adolescence; identify common growth and developmental tasks, and needs of children; set priorities based upon principles of growth and development in organizing patient care; compare the needs of the well child and the sick child; identify anatomical differences between the child and adult; provide nursing care for those disorders most commonly associated with childhood; implement a nursing care plan according to the diagnosis and age of the pediatric patient. Prerequisites: NUP 5805 and NUP 5817. (3-4-9) 8

**NUP 5807 Care of Mothers and Newborn Infants:** Upon completion of this course, students should be able to: carry out the function of the Practical Nurse in care of mothers and infants during pregnancy, childbirth and the post-partum period; demonstrate a knowledge and understanding of human sexuality, normal growth and development during pregnancy, and the processes of labor and delivery; compare the psychoprophylactic and the traditional methods commonly used in childbirth; identify common discomforts of the antepartum and postpartum periods and give measures to relieve these discomforts; report pertinent observations to the Registered Nurse in caring for the maternity patients with complications. Prerequisites: NUP 5805 and NUP 5817. (3-4-9) 8

**NUP 5817 Care of Patients with Med/Surgical Conditions III:** Upon completion of this course, students should be able to: outline specific nursing care measures for patients with specific conditions; perform effectively in an assisting role to the Registered Nurse; follow directions in carrying out delegated responsibilities in care of patients; assist in carrying out rehabilitative measures for patients. Prerequisite: NUP 5805. (3-4-9) 8

**NUP 5904 Care of Patients with Med/Surgical Conditions I:** Upon completion of this course, students should be able

to: provide the nursing needs of patients with various medical/surgical conditions; administer oral and parenteral medication; develop and implement a nursing care plan for selected patients; use appropriate therapeutic measures; demonstrate knowledge of principles of asepsis; recognize and meet the needs of the geriatric patient; apply previously learned principles in meeting physical, emotional and social needs of patients; demonstrate an understanding of ways in which an individual responds to illness; display acceptable behavior in the patient care setting. Prerequisite: NUP 5704. Corequisite: NUP 5400. (3-2-15) 9

## Nursing, Associate Degree

**NUR 3305 Nutrition for Nurses:** Upon completion of this course, students should be able to: identify the basic nutrients and basic nutritional needs of all age groups; describe the composition of common hospital diets; recognize the need for and interpret modified diets; demonstrate awareness of the role of the nurse in relation to the dietary needs of clients. Prerequisite: NUR 3704. Corequisite: NUR 3805. (3-0-0) 3

**NUR 3704 Fundamentals of Nursing I:** Upon completion of this course, students should be able to: demonstrate ability to utilize the nursing process in providing basic care of hospitalized clients; apply to client care the concepts of Maslow and Erikson; demonstrate interpersonal and professional relationships; identify needs of the geriatric client; administer oral medications; perform basic technical nursing skills. Prerequisite: Admission to program. Corequisites: PSY 2504 and BIO 1504. (3-4-6) 7

**NUR 3805 Fundamentals of Nursing II:** Upon completion of this course, students should be able to: provide pre- and post-operative nursing care for clients; administer oral and parenteral medications; utilize the nursing process to provide care for clients with musculoskeletal disorders; begin to function as members of the health care team in a general hospital setting. Prerequisites: NUR 3704, BIO 1504 and PSY 2504. Corequisites: NUR 3305 and BIO 1505. (3-4-9) 8

**NUR 3806 Care of the Adult Client I:** Upon completion of this course, students should be able to: integrate knowledge learned from previous nursing and related courses to provide safe nursing care; demonstrate responsible professional behavior; provide nursing care for clients experiencing alterations in fluid and electrolyte balance, apply the nursing process to care for clients and their families with hematological problems; apply the nursing process to care for clients and their families experiencing alterations in cardiovascular function and respiratory function to promote optimum self-care recognizing legal and ethical implications; respond with appropriate attitude therapy to client behavior; demonstrate assertiveness in communicating with instructors, peers, clients and members of the health care team. Prerequisites: NUR 3805, BIO 1505 and NUR 3305. Corequisites: BIO 1503 and SOC 2514. (3-4-9) 8

**NUR 3905 Care of the Adult Client II:** Upon completion of this course, students should be able to: integrate knowledge learned from previous nursing and related courses to provide safe nursing care; demonstrate responsible professional behavior; apply the nursing process to care for clients and their families with alterations of pituitary, adrenal, thyroid and parathyroid and prevent complications to the extent possible; apply the nursing process to care for clients and their families with complicated and uncomplicated diabetes mellitus to obtain optimum self-care; utilize the nursing process to care for clients experiencing alterations, gastrointestinal function to maintain



optimal nutrition, prevent complications, and promote optimum self-care recognizing legal and ethical implications; identify to clients and families with alterations in gastrointestinal function options that permit sexual intimacy, participation and personal satisfaction; use the nursing process to care for clients experiencing alterations in cellular function and proliferation to maintain optimum function, prevent complications and promote optimum self-care recognizing legal and ethical implications. Prerequisites: NUR 3806, BIO 1503 and SOC 2514. Corequisite: PSY 2514. (3-4-12) 9

**NUR 4216 Physical Assessment for Nurses:** Upon completion of this course, students should be able to: obtain a basic health history; assess the major body systems physically; recognize deviations from normal assessment findings; utilize physical assessment findings in making nursing judgments. Prerequisite: R.N. or NUR 3905. (2-0-0) 2

**NUR 4304 Nursing Perspectives:** Upon completion of this course, students should be able to: identify and discuss current issues in nursing; relate personal, legal, professional and ethical responsibilities to the practice of nursing; identify the roles and responsibilities of the Associate Degree Nurse upon graduation. These perspectives guide students toward their goal of employment and/or sequential education after graduation. Corequisite: NUR 4906. (3-0-0) 3

**NUR 4390 Individual Study:** This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment will provide access to the resources of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of sponsor and department head is required. (3-0) 3

**NUR 4614 Maternal-Neonatal Nursing:** Upon completion of this course, students should be able to: apply the concept of family-centered maternity care; assess the needs of the mother and family during the antepartal, intrapartal and postpartal periods and use this assessment as a basis for providing nursing care; teach health care to promote a physically safe delivery for mother and baby, and an emotionally satisfying experience for mother, father and baby; assess the newborn infant's needs and use the assessment as a basis for giving nursing care; teach the parents basic infant care; recognize signs and symptoms of the common obstetrical complications and take appropriate nursing action. Clinical learning experiences will coincide with classroom theory. Prerequisites: NUR 3905, SOC 2514 and PSY 2514. (2-4-6) 6

**NUR 4615 Psychiatric Nursing:** Upon completion of this course, students should be able to: be aware of their own needs and responses based on personal experiences which influence behavior toward clients; provide basic support by understanding human behavior in the maladaptive dimension; be knowledgeable about basic mental health concepts which constitute a foundation for nursing interventions; initiate a problem-solving approach to utilize the nursing process in psychiatric nursing; understand the relevance of somatic as well as interactional therapy of treatment approaches and trends in psychiatric nursing; respond to the mentally ill client with a high level of human and informed nursing interventions. Prerequisites: NUR 3905, SOC 2514 and PSY 2514. (2-4-6) 6

**NUR 4715 Nursing of Children:** Upon completion of this course, students should be able to: plan, implement and evaluate nursing care for children (infancy through adolescence) with common childhood diseases such as hereditary disorders, congenital anomalies, infectious diseases, accidental injuries, onco-

logical disorders, endocrine disorders, musculoskeletal abnormalities, respiratory disorders and cardiovascular disorders; recognize both normal and abnormal growth and development and implement nursing care to meet the child's psychological needs; provide health care teaching for the pediatric client and family. Prerequisites: NUR 3905 and PSY 2514. (3-2-9) 7

**NUR 4906 Advanced Care of the Adult Client:** Upon completion of this course, students should be able to: assess the nursing needs, plan, implement and evaluate nursing care for the critically ill adult client; identify stresses that contribute to physical and mental illness in the adult and utilize these in the development of long-term goals for the client and family; demonstrate the ability to apply leadership skills when assigned to the role of team leader or team member in the clinical area; interact with other health team members with the intent to modify client care; demonstrate the understanding of scientific principles underlying the care of clients requiring acute cardiac care, acute respiratory care, and care of clients with multi-system failure; apply knowledge and skills gained in all previous courses when caring for clients. Prerequisites: NUR 3905, NUR 4614, NUR 4615 and NUR 4715. Corequisite: NUR 4304. (3-4-12) 9

## Paralegal Technician (see: LEX)

## Personal Development

**PER 9200 Self Power for Women:** Upon completion, students should be able to establish their own programs of health, grooming and dressing habits in order to look and feel their best. Students will also gain a positive self-image and enhanced personal potential toward others. These objectives will be accomplished through participation in sessions on wardrobe and makeup selection, nutrition for health and beauty, physical exercise programs, identifying personal attitudes, voice projection, body language and time management. (2-0) 2

## Philosophy

**PHI 1500 Introduction to Philosophy:** This course is an introduction to the basic problems of humankind and some philosophical solutions which emphasize those systems of thought which deal with these problems. Upon completion, students should be able to construct guidelines for decision making based on knowledge of the wisdom of past thinkers. (5-0) 5

**PHI 2500 Logic:** This course is an intensive study of the methodology of reasoning, including principles of induction and deduction, using symbolic logic. Upon completion, students should be able to recognize the inconsistency in any given line of reasoning, construct a persuasive argument based on reliable information regarding the subject matter. (5-0) 5

## Photography (see: ART)

## Physics

**PHY 1300 Science and Society:** This course is designed to make students more familiar with science as a part of cultural influence. Students will become aware of some of the most significant discoveries in the development of modern technological society, and their effect upon the art, politics, religion, etc. of the time. It is intended that students will become particularly

aware of potential future conflicts between technology and humanism. (3-0) 3

**PHY 1400 Science and Society:** The same lecture as PHY 1300 with the addition of laboratory experience for physical science credit. Students will perform facsimiles of several classical experiments and become familiar with some basic laboratory apparatus. (3-2) 4

**PHY 1404 Physics I—Basic Mechanics:** The first course in the introductory physics sequence designed to meet the needs and interests of students in technology programs and students working towards bachelor's degrees in areas other than engineering, mathematics or physical science. Upon completion of this course, students will demonstrate proficiency in the use of the International System of units and have an understanding of the basic principles of linear motion, force, equilibrium, friction, energy, power and momentum. Their understanding will be demonstrated primarily by solving problems involving the fundamentals of these physical concepts. Prerequisites: MAT 1504, MAT 3503, high school equivalent, or departmental permission. (3-2) 4

**PHY 1405 Physics II—Elastic and Thermal Properties of Matter:** A continuation of PHY 1404 which includes the study of such topics as rotational dynamics, elastic models, simple harmonic motion, thermal properties of matter, gas laws and heat transfer. During this course, students should master the terminology and the physical units used in these topics and be able to solve basic problems selected from these areas. Prerequisite: PHY 1404. (3-2) 4

**PHY 1406 Physics III—Electricity and Magnetism:** The third course in the introductory physics sequence. Topics included are static electricity, electric fields and potential, simple DC circuits, simple AC circuits, magnetism and electromagnetic induction. These topics are treated with both a qualitative and a problem solving approach. Prerequisite: PHY 1404. (3-2) 4

**PHY 1407 Physics IV—Modern Physics:** The last of the introductory physics sequence is an overview of the most significant discoveries in physics which have radically changed our views of nature since the nineteenth century. Beginning with general wave phenomena, the course progresses through electromagnetic waves, physical optics, atomic structure, and a cursory treatment of the basics of quantum theory, relativity and nuclear processes. Prerequisites: PHY 1404 and PHY 1406 or departmental permission. (3-2) 4

**PHY 1500 Introduction to Astronomy:** This course introduces students to the historical development of astronomy, the basic tools and techniques of astronomy, and past and present cosmological models. Upon completion of this course, students should be able to: use an astronomical coordinate system and a star map to locate a prominent astronomical feature; describe the relative locations, motions and composition of the major components of the solar system; and briefly describe major cosmological phenomena such as red shift, pulsars, super novae, etc. (4-2) 5

**PHY 2504 General Physics I—Mechanics:** The first of a three-course sequence designed primarily for students majoring in physical science, engineering or mathematics. Upon completion of this course, students should be able to demonstrate an understanding of principles of kinematics, particle dynamics, energy and momentum, particularly through the solution of appropriate problems of a level requiring the use of calculus and vector analysis. Prerequisite: MAT 1524 or departmental consent. (4-2) 5

**PHY 2505 General Physics II—Molecular Physics and Waves:** A continuation of the sequence beginning with PHY 2504. Upon completion of this course, students should be able to demonstrate an understanding of principles of molecular physics, thermal properties of matter, wave mechanics and related topics. Prerequisite: PHY 2504 or departmental consent. (4-2) 5

**PHY 2506 General Physics III—Electricity and Magnetism:** The third in the sequence of courses beginning with PHY 2504. Students completing this course should be able to solve rather rigorous problems in the area of electrical fields, current electricity and electromagnetic fields. Prerequisite PHY 2505 or departmental consent. (4-2) 5

**PHY 2507 General Physics IV—Optics and Modern Physics:** This is the fourth course in the General Physics sequence which is designed for students majoring in physical science, engineering or mathematics. Upon completion of this course, students should be able to demonstrate conceptual understanding and the capability of solving problems involving electromagnetic oscillations, Maxwell's equations, geometric optics, optical spectra, the quantum, and nuclear emissions. Prerequisites: PHY 2504 and PHY 2506 or PHY 1404, PHY 1406 and strong math background. (4-2) 5

**PHY 3324 Radiation Physics I:** This course is designed primarily for, but not limited to, Radiology Technology students. Upon completion of this course, students should have a background in structure of matter, basic electricity and magnetism, and the nature of electromagnetic radiation to comprehend the theories underlying the construction and operation of a basic radiography unit. Prerequisite: high school credit in algebra. (2-2) 3

**PHY 3325 Radiation Physics II:** A continuation of PHY 3324. Upon completion of this course, students should be able to draw and explain basic radiography circuitry, and should be able to explain the basic principles of radiation dosage, detection, protection and simple nuclear processes. Prerequisite: PHY 3324. (2-2) 3

**PHY 3414 Physics of Respiratory Therapy:** Students completing this course should have an overview of basic principles related to properties of matter, energy, heat, gas laws and basic electricity, with particular emphasis on application to Respiratory Therapy. (3-2) 4

**PHY 5304 Shop Science I:** An introductory course in physics and its application covering systems and measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electromagnetism. The production, transmission, distribution, measurement and specific application of electrical energy also constitute major areas of study. Upon completion of this course, students will demonstrate an acceptable level of understanding by passing a series of mastery quizzes designed to cover each of the topics listed. (2-2) 3

**PHY 5305 Shop Science II:** A continuation of PHY 5304. Principles of force, motion, work, energy, power and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Student mastery testing is again employed. (2-2) 3

## Physical Therapist Assistant

(see: PTH)



## Piano Tuning and Repair

(see: PTR)

## Small Engine Repair

**PME 5211 Small Engine Repair I:** Upon completion of this course, students should have: demonstrated an understanding of the basic operations of two-stroke cycle air-cooled engines; demonstrated an understanding of magneto ignition systems; serviced at least two types of ignition systems; demonstrated an understanding of carburetors; serviced at least three types of carburetors; serviced recoil starters. (1-3) 2

**PME 5214 Small Engine Overhaul:** Upon completion of this course, students should be able to service most small air-cooled two- or four-stroke cycle engines. This service will include: disassembly and reassembly; measuring components for wear; servicing valves; resizing cylinders; replacing bearings and bushings. Prerequisite: PME 5211. (1-3) 2

**PME 5220 Chain Saw Repair:** Upon completion of this course, students should have serviced several types of gasoline powered chain saws. This will include service on: ignition systems, fuel systems, powerheads, and cutting units. (1-3) 2

## Political Science

**POL 1502 American Politics:** Students will analyze the three branches of American national government and the ways in which they interact with each other, and with political parties, interest groups and the electorate in political decision making. (5-0) 5

**POL 1510 Introduction to Comparative Politics:** Students will compare and contrast decision-making in several Western and non-Western, industrial and less developed, democratic and authoritarian political systems. (5-0) 5

**POL 1511 Introduction to International Relations:** Students will identify and analyze patterns in relations among nations, and explain the effects on international relations of differing national perspectives, "power," international law, international organizations, the "balance of power" and the "balance of terror." (5-0) 5

**POL 2500 State and Local Politics:** Students will analyze political decision-making in the states and local areas, emphasizing in their analysis: changing relations between the federal government, states and cities; the decline of southern sectionalism and big city political machines, the rise of suburban areas, citizen action groups, and new forms of metropolitan government. (5-0) 5

**POL 2501 Political Ideologies:** Students will explain the functions of political ideology, and describe the beliefs and practice of communism, socialism, fascism, capitalism and democracy in the politics and socio-economic structure of various nations. (5-0) 5

**POL 2104-2504 Special Topics in Political Science:** Students will examine particular topics of political interaction and decision-making in areas not covered in standard courses. Course objectives vary with the subject matter studied. By consent of instructor and department head.

(1 to 5 hrs. class/week—1 to 5 hrs. credit).

## Postal Service Management

(see: PSM)

## Practical Nursing (see: NUP)

## Graphic Arts

**PRN 4311 Printing Sales:** Upon completion of this course, students should be able to: plan and prepare for a sales interview with a client; describe proper procedures in dealing with a client and associates in the printing industry; describe the system of selling by objectives; describe the importance of physical fitness and proper grooming; write effective business letters; describe the proper use of audio-visuals in selling; demonstrate a familiarity with the printing processes, printing supplies, trade customs and ethics; describe proper procedures for credit collections. (3-0) 3

**PRN 4337 Color Separation Techniques and Theory:** Upon completion of this course, students should be able to: describe basic color theory with regard to additive and subtractive color; produce a set of process color separations by a minimum of two methods, one set to be made with the use of silver masking; explain the procedure to color correct by wet and dry dot etching. Prerequisite: PRN 5336 is recommended. (2-2) 3

**PRN 5207 Cooperative Lab:** Upon completion of this course, students should be able to: apply the skills learned in the graphic arts classroom and lab to actual working situations in the graphic arts industry. This course may be substituted for PRN 5704 (Printing Applications II) upon receiving permission from the program director and completing an application to take the course. (0-20) 2

**PRN 5272 Printing Applications I—Part B:** A continuation of PRN 5371. Prerequisite or corequisite: PRN 5371. (0-6) 2

**PRN 5273 Printing Applications I—Part C:** A continuation of PRN 5272. Prerequisite or corequisite: PRN 5272. (0-6) 2

**PRN 5282 Printing Applications II—Part B:** A continuation of PRN 5381. Prerequisite or corequisite: PRN 5281. (0-6) 2

**PRN 5283 Printing Applications II—Part C:** A continuation of PRN 5282. Prerequisite or corequisite: PRN 5282. (0-6) 2

**PRN 5301 Printing Management:** Upon completion of this course, students should be able to: describe the structure of the management levels in a company; discuss the importance of coordinating the elements of a job and keeping the customers informed as to the status of their job in the plant; describe production control, proper purchasing of supplies, quality control and material handling. (3-0) 3

**PRN 5303 Printing Estimating:** Upon completion of this course, students should be able to: compute paper and ink costs; copyfit type for a job; compute cost of producing a negative, plate, printing and bindery for a given job. Prerequisites: PRN 5315, PRN 5425 and PRN 5435 or permission of program director. (3-0) 3

**PRN 5310 Paper and Ink:** Upon completion of this course, students should be able to: state the characteristics of the major classifications of paper and other substrates; describe how paper

and ink are manufactured and distributed; describe and give solutions to paper and ink related problems on the press; select paper and ink properly matched to the customer's specifications.

(3-0) 3

**PRN 5313 Typesetting I:** Upon completion of this course, students should be able to: describe the requirements of good composition; trace the development of typesetting; operate a modern phototypesetter and produce quality photo type; perform maintenance operations on a modern phototypesetter; produce quality photo-display type; describe future trends in typesetting.

(2-2) 3

**PRN 5314 Process Camera I:** Upon completion of this course, students should be able to: describe the purpose and function of photomechanical photography and its equipment and materials; set up and operate a functional darkroom shooting line and halftone copy; use a densitometer, the PMT process and process photography filters.

(2-2) 3

**PRN 5315 Process Camera II:** (A continuation of PRN 5314). Upon completion of this course, students should be able to: shoot line and halftone copy of a more difficult nature; do special effects photography including duotones, dropout halftones, set-ins and mezzotints; screen color separations properly. Prerequisite: PRN 5314.

(2-2) 3

**PRN 5316 Production Screen Printing:** Upon completion of this course, students should be able to: use correctly all basic materials of screen printing; prepare hand-cut film stencils, photo direct and photo indirect stencils; print on at least three different surfaces; describe the differences in the technique and materials used in printing on different materials; describe the different uses of screen printing; describe the use of machines and automated equipment in industrial screen printing.

(2-2) 3

**PRN 5317 Typesetting II:** At the completion of this course, students should be able to: plan, mark up and produce a job with varied format; copyfit and set copy to specifications, proofread and make corrections. Prerequisite: PRN 5313.

(2-0) 2

**PRN 5364 Fundamentals of Offset Printing:** This course is designed to give Commercial Art students a basic understanding of offset lithography. At the completion of this course, students should have: produced line and halftone negatives; stripped combination flats; made plates; printed a simple self-promotional folder. Prerequisites: VCO 4304, VCO 4305 and VCO 4415.

(2-2) 3

**PRN 5365 Stripping I and Platemaking:** Upon completion of this course, students should be able to: describe and demonstrate various methods of image assembly; strip line and halftone combinations; make dylux and color key proofs; strip multi-color work with two, three and four overlapping screen tints; step and repeat an image; expose and process various types of offset plates.

(2-2) 3

**PRN 5369 Introduction to Graphic Arts:** Upon completion of this course, students should be able to: list and describe the major printing processes; describe the phases a piece of printing goes through in the production process; describe the duties performed by those employed at various stages of production, management and sales; describe the graphic arts industry in the local area.

(3-0) 3

**PRN 5371 Printing Applications—Part A:** (A course for students unable to make the total time requirements for PRN 5700 in one quarter). At the completion of this course, PRN 5372 and PRN 5373, students should have met all the requirements for PRN 5700. Prerequisite: same as PRN 5700.

(2-3) 3

**PRN 5381 Printing Applications II—Part A:** (A course for students unable to make the total time requirements for PRN 5704 in one quarter). At the completion of this course, PRN 5282, and PRN 5283, students should have met all the requirements for PRN 5704. Prerequisite: same as PRN 5704.

(2-3) 3

**PRN 5390 Individual Study:** This course provides students with the opportunity to develop a special program of studies to fit a particular need not met by other courses during the second year of study. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member. Approval of the sponsor and the program director is required along with an application to take the course.

(3-0) 3

**PRN 5401 Copy Preparation I:** Upon completion of this course, students should be able to: produce camera ready paste-up; use the common tools and materials found in copy preparation; produce simple, and complex mechanicals using key line art work and overlays; describe the relationship of copy preparation with the rest of the printing process.

(2-4) 4

**PRN 5402 Basic Calculations for Printers:** Upon completion of this course, students should be able to: apply the principles of addition, subtraction, multiplication and division to problems in the graphic arts field; use ratio and proportion to describe chemical mixtures in the lab; understand scale measurement; read a ruler accurately; manipulate fractional and decimal numbers; determine mathematically the most economical cut of paper stock; perform area and volume calculations; use simple algebraic equations to solve dimensional problems; have a working knowledge of pica and point measurement; discuss measurement using the metric system as well as the English system.

(4-0) 4

**PRN 5403 Copy Preparation II:** (A continuation of PRN 5401.) Upon completion of this course, students should be able to complete paste-up mechanicals and camera ready art of a more difficult nature.

(2-4) 4

**PRN 5409 Color Reproduction:** Upon completion of this course, students should be able to: explain color theory; describe various methods used to make separations, identifying strengths and weaknesses; list and describe the major proofing methods used for process color; produce a simple eye pleasing color separation. Prerequisites: PRN 5435, PRN 5315 and PRN 5425.

(3-2) 4

**PRN 5424 Offset Press I and Bindery:** Upon completion of this course, students should be able to: describe and perform procedures in press make-ready including determining correct measurements for packing, mounting of plates and blankets; set the feeder, delivery, dampener rollers, ink, fountain solution, and pH; operate duplicator to produce a satisfactory printed piece; identify and describe the various types of bindery operations including book bindery, finishing operations in packaging, padding and other general bindery procedures.

(2-4) 4

**PRN 5425 Offset Press II:** (A continuation of PRN 5424). Upon completion of this course, students should be able to: operate a full size offset press; identify and correct problems during press run; control the register of color printing. Prerequisite: PRN 5424.

(2-4) 4

**PRN 5435 Offset Stripping II:** (A continuation of PRN 5424). Upon completion of this course, students should be able to: make up flats for larger offset presses; make composite negatives; strip duotones and process color; work with spreads and chokes; identify various methods of stripping a printed



piece to produce the desired finished product; work with more involved and difficult stripping projects. Prerequisite: PRN 5365. (2-4) 4

**PRN 5700 Printing Applications I:** Upon completion of this course, students should have attained additional skills in the following areas: layout and past-up of mechanical art; planning a detailed method of production; shooting line, halftone and special effects copy; stripping; making plates; operating press and bindery equipment. Students will produce commercial quality printed pieces. Prerequisites: PRN 5313, PRN 5314, PRN 5365, PRN 5401, PRN 5424, and the permission of the program director. (2-15) 7

**PRN 5704 Printing Applications II:** (A continuation of PRN 5700 Printing Applications I). Upon completion of this course, students will have completed tasks of a more complex nature in the following areas: layout and paste-up of mechanical art; planning a detailed method of production; shooting line, halftone, and special effects copy; stripping, making plates, operating press and bindery equipment. Students will produce commercial quality printed pieces. Prerequisite: PRN 5700 and permission of the program director. (2-15) 7

## Police Science

**PSC 3303 Motor Vehicle Laws of North Carolina:** Upon completion of this course, students should be able to apply the provisions of North Carolina General Statute Chapter 20 toward its intended purpose: to protect the lives and property of persons using the streets and highways of North Carolina. (2-2) 3

**PSC 3309 Boating Laws of North Carolina:** Upon completion of this course, students should be able to: identify the classification of boats and the laws governing the operation of each; operate a motorboat safely and within the boating laws and regulations; recognize the most common boating hazards; identify the inland waterway marking system; use the emergency equipment associated with boats correctly. (1-4) 3

**PSC 3500 Introduction to Criminology:** Upon completion of this course, students should be able to identify and describe: the major theories of crime causation; the major crime prevention programs; the major treatment programs; identify the major researchers in the field of criminology. (5-0) 5

**PSC 3501 Introduction to Law Enforcement:** Upon completion of this course, students should be able to: identify at least 80 major concepts related to the history of law enforcement; identify the purpose of at least 25 law enforcement agencies operating in North Carolina; from a list of at least 18 specific crimes, identify the law enforcement agency with jurisdiction; recognize at least 34 current practices of law enforcement agencies and/or personnel; identify the purpose of at least 10 federal law enforcement agencies. (5-0) 5

**PSC 3504 Crime Scene Technology:** Upon completion of this course, students should be able to: protect life and property at a crime scene; protect, preserve and photograph a crime scene; search the crime scene for evidence; maintain chain of custody in handling of physical evidence; demonstrate proficiency in the use of specialized equipment in collecting, identifying and processing physical evidence. (4-2) 5

**PSC 3510 Criminal Law:** Upon completion of this course, students should have had a practical approach to the substantive law and should have a sound introduction to legal theory; have a basic knowledge of the common law; identify and define elements of crimes; understand how basic concepts function to

determine the law; be able to identify and define legally recognized defenses. (5-0) 5

**PSC 3514 Police Organization and Administration:** Upon completion of this course, students should be able to: depict the organization of a police agency within the guidelines of sound organizational principles; recognize effective administrative functions; formulate a budget; write a staff study, emergency plan, standard operating procedure and a general order. (5-0) 5

**PSC 4310 Self-Defense and Weaponry:** Upon completion of this course, students should be able to demonstrate: firing proficiency with the police service revolver, including prescribed safety procedures; self-defense procedures utilizing police methods; proficiency in the use of the baton and proper utilization of handcuffs. (1-4) 3

**PSC 4501 Constitutional Law:** Upon completion of this course, students should be able to identify, define and apply statutory rules and standards in the area of arrest, search and seizure; and possess an understanding of the landmark cases under the state and federal constitutions, particularly the Fourteenth Amendment. (5-0) 5

**PSC 4503 Law Enforcement Psychology:** Upon completion of this course, students should be able to: identify the most common psychological demands, affects and effects of the law enforcement function on the officers and their families; identify the most common procedures of selection, retention and promotion of police officers; identify major methods of obtaining information; identify the major methods employed in deception; identify common principles of dealing with and controlling people; identify the behavioral characteristics of abnormal people commonly encountered by police officers; know the remedial services that are available. (5-0) 5

**PSC 4504 Criminal Procedure and Rules of Evidence:** Upon completion of this course, students should be able to: display and demonstrate workable knowledge and skill in criminal procedure and rules of evidence, and demonstrate a generally desired and accepted practice of courtroom decorum. This includes: North Carolina Code of Pretrial Criminal Procedure, Appellate Review, the role of the presiding judge, judicial notice, impeachment and corroboration, examination, competency and privilege in general, transactions with persons since deceased or insane, circumstantial evidence, character, real evidence, evidence illegally obtained, opinion, expert testimony, hearsay, admissions, confessions, burden of proof and presumptions. (5-0) 5

**PSC 4505 Criminal Investigation:** Upon completion of this course, students should be able to: maintain an accurate notebook; define the accepted procedures for interviews, interrogations, admissions, confessions and written statements; define the accepted procedures for developing and maintaining informants; identify sources of information; define accepted procedures for undercover operations and surveillance; define accepted procedures for the investigation of specific offenses; define specific forensic procedures and applications; identify laws and case laws applicable to criminal investigation. (5-0) 5

**PSC 4506 Advanced Crime Scene Technology:** Upon completion of this course, students should be able to: sketch a mock crime scene; photograph a mock crime scene; process a mock crime scene for latent fingerprints; process a mock crime scene for biological fluids; process a mock crime scene for ballistics evidence; process a mock crime scene for trace evidence; be 100% complete in gathering physical evidence in a mock crime scene; process a mock crime scene for tool marks; prepare the

physical evidence for transport to a crime lab; present in a mock trial, all evidence found at the mock crime scene; withstand cross-examination in presenting evidence in mock trial. Prerequisite: PSC 3504 or departmental consent. (4-2) 5

**PSC 4510 Police Operations:** Upon completion of this course, students should be able to: define the purpose of police patrols; define the types of patrol; define the types of communications; define the accepted procedures for: observation, perception, notetaking, report writing, identification and description of persons and property, field interrogation, stopping of vehicles and control of occupants, use of personal protective weapons, techniques and tactics by type of call; perform a stop and frisk; complete an affidavit and search warrant. (4-2) 5

**PSC 4511 Administration of Justice:** Upon completion of this course, students should be able to: construct a flow chart demonstrating the difference between the federal, state and local systems of criminal justice; identify and differentiate between the functions and responsibilities of law enforcement, courts and corrections; identify and define the philosophical basis for the existence of the various components of the criminal justice system; construct and demonstrate the feasibility of felony alert and disaster plans coordinating the units of the system. (5-0) 5

**PSC 4520 Public Relations:** Upon completion of this course, students should be able to: define the focus and overall purpose of public relations; list 25 positive benefits of effective public relations for criminal justice agencies; list 35 negative aspects of faulty public relations for criminal justice systems; define the power and influence of public opinion; identify major problems in public relations as related to the criminal justice mission; identify factors which foster effective and affective public relations; identify examples of conserving favorable public opinion; identify common ways of sampling public opinion. (5-0) 5

## Postal Service Management

**PSM 3300 Postal Service History and Organization:** Upon completion of the course, students should be able to: trace the delivery of written communication and merchandise from earlier eras to the present; depict and compare the private, corporate and governmental agencies which have been responsible for mail service; define the current postal organization as mandated by Public Law 91-375; trace and explain postal philosophies, policies, procedures, rules and regulations of the current organization; demonstrate an understanding of the history and organization of the Postal Inspection Service. (3-0) 3

**PSM 3401 Postal Service Labor Management:** This course presents an overview of laws and practices as related to Labor Management in the Postal Service. Upon completion of this course, students should be able to discuss: the development of labor unions of Postal Service employees with emphasis on the National and Local agreements, the various bargaining units and associations in the U.S. Postal Service, the grievance procedures, the disciplinary action procedures, and the National Labor Relations Board. (3-2) 4

**PSM 3404 Mail Processing I:** Upon completion of this course, students should be able to explain and interpret: the mail classifications and rates, service standards, postal terminology, the four functions of mail processing, distribution systems, mail processing objectives and responsibilities, the mail preparation operation, manual distribution, revenue protection and the bulk mail centers. (3-2) 4

**PSM 3405 Mail Processing II:** Upon completion of this course, students should be able to explain and interpret: postal mechanization, machine distribution, human resources management in mail processing, reporting systems and data analysis, operational planning, scheduling and staffing, budgeting, and functional coordination with customer services. (3-2) 4

**PSM 4401 Postal Service (Support) Finance:** Upon completion of this course, students should be able to explain: how postal revenue is received and controlled, procedures of the Board of Governors and the Postal Rate Commission, and the Postmaster General's Annual Report, as well as budgeting, financial accounting and reporting, timekeeping, travel regulations and Administrative Services. (3-2) 4

**PSM 4420 Postal Employee Services:** Upon completion of this course, students should be able to explain: the functions of the Personnel Office in relation to the services it provides for postal employees including policies and practices concerning selection, placement, training, promotion of employees, self-development training programs, EEO practices, insurance and retirement benefits, awards programs, salary schedules, and safety and health. (3-2) 4

**PSM 4421 Postal Customer Services:** This course is designed to provide students with an in-depth knowledge of all services provided for postal customers. Upon completion, students should be able to explain effective customer relations, retailing postal products, and non-postal services including professional window service operations and the duties of customer service representatives. (3-2) 4

**PSM 4430 Postal Delivery and Collection:** This course is designed to provide a functional knowledge of mail delivery and collection systems within the Postal Service through the use of two management training programs: "Method Improvement Plan/Standard Operating Procedures" and "Route Inspections and Evaluations." Upon completion, students should be able to state and explain the duties, responsibilities and skills required in the Carrier Crafts and the Management of Rural Delivery Service. (3-2) 4

**PSM 4431 Postal Problem Analysis:** This course presents actual postal problems for analysis and solution. Upon completion, students should be able to utilize the systematic approach to problem solving: identify the problem, determine and analyze the dimensions of the problem; assess adverse consequences of the problem; determine and analyze alternative solutions; specify and defend the best solution to the problem. (3-2) 4

## Psychology

**PSY 1500 Psychology of Adjustment:** Upon completion of this course, students will be able to identify various stress situations encountered in life and strategies useful in meeting these situations. Areas of adjustment which will be emphasized are self-concept, assertive and aggressive behavior, interpersonal relations, stress and abnormal behavior. (5-0) 5

**PSY 2500 Educational Psychology:** Upon completion of this course, students should demonstrate a knowledge of learning, motivation and development as these relate to classroom teaching. Students should also demonstrate a knowledge of testing, evaluation and assessment. (5-0) 5

**PSY 2504 General Psychology:** An introductory course which may be taken in either a self-paced or conventional manner. Upon completion of this course, students should demonstrate a knowledge of the basic concepts of psychology, the use of these concepts as employed by the major theorists, and



the practical and therapeutic application of these concepts.

(5-0) 5

**PSY 2505 Human Development:** Upon completion of this course, students should demonstrate a knowledge of the physical, psychological, social and intellectual development of humans from conception to death. Prerequisite: PSY 2504.

(5-0) 5

**PSY 2514 Abnormal Psychology:** Upon completion of this course, students should be able to identify the major forms of mental illness as described in the DSM III, the etiology of mental illness and the preferred methods of treatment. Prerequisite: PSY 2504.

(5-0) 5

**PSY 2524 Mental Retardation:** Upon completion of this course, students should demonstrate a knowledge of the biological, psychological and sociological aspects of mental retardation. They should also demonstrate knowledge of diagnosis, treatment and education of the mentally retarded.

(5-0) 5

**PSY 2536 Special Problems in Psychology:** A number of selected topics will be presented to the class for examination and evaluation. Each student will complete a research project in an area of special interest, upon approval by, and under the direction of the instructor. By consent of department head and instructor.

(5-0) 5

**PSY 3314 Principles of Humanistic Psychology:** Upon completion of this course, students should demonstrate a knowledge of what constitutes a healthy personality as described by the major humanistic theorists.

(3-0) 3

## Physical Therapist Assistant

**PTH 3504 Introduction to Physical Therapy:** Upon completion of this course, students should be able to: describe the development, preparation and roles of physical therapy personnel and services; demonstrate awareness of physical therapy services appropriate to various clinical settings; identify clinical conditions commonly treated by physical therapy services; relate the variety and interrelationships of medical and paramedical disciplines in meeting patient needs; demonstrate: basic aseptic techniques, safe transfer techniques using proper body mechanics, proper bed positioning of selected clinical conditions, and the ability to obtain the vital signs of temperature, pulse, respiration and blood pressure. Prerequisite: acceptance into the program.

(3-6-0) 5

**PTH 3524 Physical Therapy Procedures I:** Upon completion of this course, students should be able to: demonstrate orally and in writing a basic knowledge of the different methods of heat transmission to the body, basic physics and terminology of low and high frequency currents utilized in physical therapy, the physical and physiological effects of heat (hot packs, low and high frequency currents), and the rationale of expected physical/ physiological effects and indications/contraindications of the modalities being studied; demonstrate acceptable competence in the skill development laboratory through use of good body mechanics, performance of four therapeutic massage techniques, application of hot packs alone and combined with other modalities, and application of low and high frequency therapeutic currents. Prerequisites: PTH 3504 and BIO 1504.(3-6-0) 5

**PTH 3525 Physical Therapy Procedures II:** During carefully planned and closely supervised clinical experiences, students who complete this course should demonstrate acceptable competence in: utilizing good body mechanics while perform-

ing safe patient transfer and treatment; applying procedures learned to date to include: hotpacks alone or combined with other modalities, massage techniques and low and high frequency therapeutic currents; recognizing patient physiological/psychological responses to treatment as appropriate or inappropriate; expressing a basic understanding of: clinical department operational procedures, specific patient diagnoses being treated, and the interrelationships of health facility departments and personnel. Prerequisites: PTH 3524, PTH 3615 and BIO 1505.

(3-0-6) 5

**PTH 3615 Applied Anatomy:** Upon completion of this course, students should be able to: describe and demonstrate major joint actions; identify the major muscles of these actions, their bony attachments and nerves; offer comparisons of expected strengths of joint actions; identify physiological components of the central and peripheral nervous systems; identify the major nerve plexuses as to spinal cord origins and muscular distributions. Prerequisites: BIO 1504 and PTH 3504.

(3-6-0) 6

**PTH 3714 Therapeutic Exercise:** Upon completion of this course, students should be able to: identify the structural unit and recognize the physiological activities of muscle tissue; relate neuromuscular function or dysfunction to a number of clinical conditions; recognize the significance of joint range measurement and muscle strength evaluations for exercise programs; utilize problem solving methods in determining appropriate exercise techniques or transfer and ambulation activities; demonstrate the use of good body mechanics and proper patient safety measures in a variety of exercise, transfer and ambulation activities, and the correct application and use of appliances and equipment for patient exercise, transfer and ambulation procedures. Prerequisites: PTH 3524 and PTH 3615.

(3-8-0) 7

**PTH 4324 Psychology of Adjustment:** Upon completion of this course, students should be able to: identify a variety of personality traits; recognize the value of utilizing various coping mechanisms by both the sick and the well; participate effectively in interpersonal relations as related to various stress situations; demonstrate recognition of the need for behavioral adjustments by both the health worker and the patient; relate the experience of another in adjustment to a disability. Prerequisite: PTH 3525 or RTH 4814.

(3-0-0) 3

**PTH 4334 Community Health and Welfare:** Upon completion of this course, students should be able to: describe a community of interest for problem solving; define and offer appropriate examples of three categories of service agencies; list and explain four phases of health care; offer valid examples of governmental influences on the health and welfare system; identify at least five referral resources usually available to meet patient needs; describe in detail the organization of and services provided by one community agency. Prerequisite: PTH 4627.

(3-0-0) 3

**PTH 4344 Seminar in Physical Therapy Procedures:** Upon completion of this course, students should be able to: locate and utilize appropriate reference material; organize pertinent information in a logical, sequential manner for presentation; present case studies, indicating the role of physical therapy; prepare and present progress notes in a prescribed form; identify both positive and negative learning experiences encountered in clinical assignments. Prerequisite: PTH 4728. Corequisites: PTH 4604 and PTH 4605.

(3-0-0) 3

**PHY 4390 Individual Study:** Upon completion of this course, students should be able to: meet the objectives outlined by the student and instructor to meet particular student needs

not provided in other courses of study. Prerequisite: department head approval. (3-0-0) 3

**PTH 4604 Clinical Education I:** During systematically planned and supervised clinical learning experiences in a local health care facility, students who complete this course should be able to: accept the personal responsibilities of promptness, personal neatness and learning of departmental procedures and practices; develop and maintain positive rapport with patient and staff; provide assigned patient treatments competently, ethically and with efficient use of time; communicate effectively with others; relate theory and principles to treatments performed; utilize available time for learning and self-improvement. Prerequisite: PTH 4728. Corequisites: PTH 4605 and PTH 4344. (0-0-18) 6

**PTH 4605 Clinical Education II:** A continuation of Clinical Education I, with identical objectives in a clinical department away from Charlotte selected by the student from available facilities affiliating with the program. Prerequisite: PTH 4728. Corequisites: PTH 4344 and PTH 4604. (0-0-18) 6

**PTH 4627 Physical Therapy Procedures III:** Upon completion of this course, students should be able to: identify and explain the physiological effects, indications and contraindications of the use of cold, paraffin and hydrotherapy procedures; demonstrate acceptable application of these same treatment procedures; perform carefully planned and supervised patient care utilizing cold, paraffin and hydrotherapy measures as well as demonstrating increased competence in performance of all previously learned skills; show evidence of effective interpersonal relations and ethical conduct in the patient care setting. Prerequisites: PTH 3525 and PTH 3714. (3-0-9) 6

**PTH 4728 Physical Therapy Procedures IV:** Upon completion of this course, students should be able to: demonstrate a knowledge of radiant heat, its physical and physiological effect, indications/contraindications; employ radiant heat measures of infrared and ultraviolet in an acceptable manner; demonstrate knowledge of, and competence in, applying all modalities and procedures learned in the program, and interrelate these measures with specific clinical conditions; give evidence of acceptable knowledge about neuromuscular structures and function; demonstrate effective patient and staff interpersonal relationships and; when performing supervised patient assignments, coordinate all learning experiences to date for safe, appropriate and ethical patient care. Prerequisite: PTH 4627. (3-0-12) 7

## Peer Tutoring

**PTL 9000 Peer Tutoring Lab:** This lab experience is designed to provide an opportunity for students to receive help from other students with tutoring in their course work plus additional instruction in study skills. The goal is to increase efficiency and effectiveness in academic endeavors of all persons involved. Tutoring is available in the majority of course areas. (0-3) 0

## Piano Tuning Technology

**PTR 5200 Piano Service Seminar:** Upon completion of this course, students should demonstrate both orally and in writing an awareness of current practices in piano and piano parts design and construction. A seminar will take place at least once per month to be conducted by invited representatives of particular piano manufacturers or will involve tours to manufacturing plants. (2-0) 2

**PTR 5210 Piano Actions:** Upon completion of this course,

students should be able to identify various types of actions and demonstrate an understanding of the construction and function of hammers, dampers, flanges, keys and felts. (0-6) 2

**PTR 5211 Vertical Regulation:** Upon completion of this course, students should be able to make minor repairs and regulation of all parts as they interact with one another (dampers, pedals, hammers, action and key depths). (1-3) 2

**PTR 5212 Hammer Replacement:** Upon completion of this course, students should be able to voice, reshape, adjust or replace hammers. (1-3) 2

**PTR 5213 Grand Regulation:** Upon completion of this course, students should be able to make precise adjustments and minor repairs of Grand Piano Actions including repetition, sostenuto and damper systems, bedding of the key frame and leveling of the keys. (1-3) 2

**PTR 5214 Restringing:** Upon completion of this course, students should be able to replace, restore, splice and clean strings. (1-3) 2

**PTR 5300 Piano Technology—The Instrument and Tools:** Upon completion of this course, students should be able to identify the different types of pianos, the parts of the piano and their functions; identify tools and their correct usage; use correct terminology; discuss the history and development of the piano and its predecessors, the harpsichord and clavichord. (3-0) 3

**PTR 5301 Piano Technology—The Technician:** Upon completion of this course, students should demonstrate both orally and in writing the ability to list necessary steps for becoming established as a Piano Technician in a community, the ability to diagnose piano problems for the customer, and the essential steps necessary for establishing and maintaining a satisfied clientele. (3-0) 3

**PTR 5330 Tuning Practicum (Piano):** Supervised Field Training. (0-9) 3

**PTR 5607 Fundamentals of Tuning I:** Upon completion of this course, students should be able to demonstrate the correct use of the tuning hammer, and an understanding of the principles of pitch. (2-12) 6

**PTR 5608 Fundamentals of Tuning II:** Upon completion of this course, students should be able to demonstrate basic ear tuning including unisons and octaves and be acquainted with equal temperament procedures (third and sixths, fourths and fifths). (2-12) 6

**PTR 5609 Intermediate Tuning:** Upon completion of this course, students should be able to demonstrate a working knowledge of the processes of tuning, i.e., alternative aural temperaments and introduction to progression of intervals, and electronic tuning aids. (2-12) 6

**PTR 5610 Advanced Tuning:** Upon completion of this course, students should be able to set tuning pins, raise pitch, demonstrate a working knowledge of interval tests, and tune for general and specialized use. (2-12) 6

## Reading

**RDN 9130 Basic Reading Skills:** This individualized reading course is designed for students who need basic reading skills. Upon completion of this course, students should be able to demonstrate: a sixth grade reading level on a standardized test; mastery of basic phonics; mastery of meaning of a passage written on a sixth grade level. (0-3) 1

**RDN 9212 Reading for College:** This course is designed to



provide students preparing for college with basic study skills and rate improvement. Upon completion, students will demonstrate increased reading efficiency, vocabulary, comprehension and study skills, including textbook reading, test taking and note taking. (2-0) 2

**RDN 9302 Advanced Vocabulary Improvement:** This course is designed for adults who need non-specialized, college-level vocabulary improvement to enhance communication skills and raise scores on standardized vocabulary tests. Upon completion of this course, students will demonstrate mastery of common Latin prefixes and roots, synonym shading, word analogies, connotation-denotation. (3-0) 3

**RDN 9312 Speed Reading:** An individualized, self-paced course designed to meet the needs of students, lay and professional members of the community, who want to increase speed in reading. Upon completion of this course, students should demonstrate a 100% increase in reading rate while maintaining an 80% level of comprehension as assessed by a standardized reading test. (3-0) 3

**RDN 9505 Reading Skills:** This individualized course in reading is designed for adults who need fundamental skill development to understand and learn from written material. Upon completion of this course, students should demonstrate mastery of basic vocabulary, comprehension and study skills. (5-0) 5

**RDN 9510 Reading Improvement:** Upon completion of this individualized course, students should be able to: choose and implement a system for long-range vocabulary development; find main ideas in given passages; draw inferences from those ideas; evaluate conflicting ideas to discover bias; study-read a college textbook. (5-0) 5

## Real Estate

**RES 3360 Real Estate Property Management:** This course examines the professional management of apartment, retail and commercial office properties for client owners in order to achieve their investment objectives. Upon completion of this course, students should be able to describe and explain: the role, responsibilities and functions of the property manager; the formation of management agreements; the development of management plans; the computation of rent escalation by various methods; the negotiation and preparation of lease contracts; the preparation of cash flow projections and operating budgets. Prerequisite: RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (3-0) 3

**RES 3364 Residential Real Estate Appraisal I:** This course and RES 3365 provide students a foundation for the valuation of residential property. Upon completion of this course, students should be able to: state the nature and purpose of appraisals; distinguish between realty and real property; define the major kinds of value; explain and give practical examples of the important economic principles affecting real estate value; describe the appraisal process; state sources of appraisal data and information; outline a narrative appraisal report; demonstrate how to make neighborhood and site analyses and site valuation. Prerequisite: RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (3-0) 3

**RES 3365 Residential Real Estate Appraisal II:** Upon com-

pletion of this course, students should be able to: identify major residential styles; identify the major structural components of houses; recognize functional inutilities; estimate reproduction costs of houses; estimate accrued depreciation; estimate market value of single-family residences by the market data, reproduction cost and gross-rent-multiplier approaches; reconcile value indications; prepare an appraisal report. Prerequisite: RES 3364. (3-0) 3

**RES 3660 Fundamentals of Real Estate (Salesman Prelicensing):** This course provides students with basic knowledge and skills necessary for entry-level salesmen and assists students to prepare for the state real estate salesman licensing examination. In order to complete the course satisfactorily, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: basic real estate concepts; property ownership and interests; transfer of title to real property; title assurance and property descriptions; land use controls; real estate brokerage and the law of agency; fair housing legislation; basic contract law, listing contracts and contracts for the sale of real estate; landlord and tenant and leases; N.C. Real Estate License Law, Commission Rules/Regulations and Trust Account Guidelines; mortgages, deeds of trust and real estate financing practices; closing real estate transactions; basic residential building construction; real property valuation; real estate management; property insurance; federal income tax implications of home ownership. (6-0) 6

*Important Note Concerning Educational Requirements for Real Estate Broker License Applicants: Persons who apply for real estate broker licenses on or after September 1, 1984 on the basis of real estate education at CPCC will be required by the North Carolina Real Estate Commission to have started and completed the following courses within five years preceding the filing of an Application Form: RES 3660 (see above) and RES 4361, RES 4362 and RES 4364 (see below).*

**RES 4361 Real Estate Law (Broker Prelicensing):** This course provides students with knowledge of real estate law necessary for entry-level real estate brokers. In order to complete the course satisfactorily, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: introduction to real estate law; property ownership interests, including real estate taxes; transfer of title to real property; land use controls; real estate brokerage and the law of agency; real estate contracts; landlord and tenant; federal income taxation of real estate; License Law, Commission Rules/Regulations and Trust Account Guidelines; securities law; closing real estate transactions. Prerequisite: RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4362 Real Estate Finance (Broker Prelicensing):** This course provides students with knowledge of the major aspects of financing real estate transactions necessary for entry-level real estate brokers. In order to complete the course satisfactorily, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: financing instruments; types of mortgage loans; sources of mortgage funds; the secondary mortgage market; residential loan underwriting; consumer legislation affecting real estate financing; real property valuation.

**Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4363 Real Estate Brokerage Operations (Broker Prelicensing):** This course provides students with the basic practical knowledge of real estate brokerage operations necessary to enable entry-level real estate brokers to operate or manage a real estate brokerage practice in a manner which protects and serves the public interest. In order to complete the course satisfactorily, students must demonstrate satisfactory knowledge and understanding of principles and practices in the following subject areas, and the ability to solve practical situational and mathematical problems based thereon: introduction to real estate brokerage operations; establishing a brokerage firm; management; personnel; marketing; records and bookkeeping system; financial operations. **Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or a current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4364 Land Use Planning and Zoning:** This course surveys governmental police powers of increasing scope and complexity which are important to owners and users of land. Upon completion of this course students should be able to: demonstrate understanding of the organization and functioning of local planning commissions, zoning departments and other governmental agencies involved in regulating and controlling land use; discuss and explain the bases for, objectives of, enactment of and implementation of long-range land use plans, zoning ordinances and other legislation which impose public restrictions on the development and use of land; state how zoning regulations may be amended, and how variances and special use permits may be obtained; apply zoning regulations to specific fact situations in order to formulate land development proposals based thereon. **Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4365 Real Estate Marketing:** This course is designed to help the brokerage student prepare to achieve high listing and sale productivity. Upon completion of this course, students should be able to: outline the broker's and salesman's responsibilities to sellers, buyers and others involved in sale/purchase transactions; set realistic personal productivity goals; establish a personal time-management system; develop a sales plan; describe techniques for obtaining listings and servicing them; state guidelines for advertising, and prepare copy for classified advertisements; describe methods for obtaining prospective buyers; conduct an interview to qualify a buyer by asking questions and to convert buyer objections into sales advantages; discuss and explain techniques for showing properties, obtaining purchase offers and closing sellers; state procedures for building a personal referral service. **Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4367 Income Real Estate Appraisal I:** This course and RES 4368 familiarize students with the income approach to estimating the market value of real estate. Upon completion of this course, students should be able—given appropriate data and information—to do the following for a specific property: estimate gross income and operating expenses and prepare a reconstructed operating statement; explain and estimate applicable interest rates, recapture rates and capitalization rates;

calculate and use compound interest functions in appraisal problem-solving; extract rates from market data for economically comparable properties; calculate estimates of market value by four major 100%-equity methods and by the gross-rent-multiplier method. **Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4368 Income Real Estate Appraisal II:** Upon completion of this course, students should be able to use mortgage-equity and discounted-cash-flow methods to capitalize projected net income streams and reversions to properties into estimates of market value. These methods include the Ellwood method, take into account the effects of availability and terms of current purchase financing on value, and deal with both level and irregular net income streams. The calculations require that students compute and use both compound interest functions and mortgage coefficients involving them in solving appraisal problems. **Prerequisite:** RES 4367. (3-0) 3

**RES 4369 Commercial Real Estate Finance:** This course is designed to help students and practicing professionals gain knowledge in assembling, analyzing and presenting requests for the financing of commercial real estate projects. The real estate practitioner should acquire increased professional understanding of the analytical methods and techniques utilized in commercial real estate finance as well as a working knowledge of the factors involved in a request for financing a project. Upon completion of this course, students should be able to: assemble information necessary and sufficient for preparing a satisfactory loan presentation package; analyze the data to ascertain project feasibility and insure completeness; prepare a presentation request for a commercial real estate loan; attain, through negotiation and interviewing techniques, a degree of comfortable competence in assisting the borrower to present the loan request to the lending institution. **Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4374 Real Estate Investment:** This course is designed to help the brokerage student acquire knowledge and skill in marketing investment real estate. Upon completion of this course, students should be able to do the following in connection with a particular investment property: specify the data and information needed to carry out an investment analysis; estimate projected gross income to, operating expenses for, and net operating income to the property; estimate effects of financing to obtain before-tax cash flow to equity; estimate effects of ordinary income tax to obtain after-tax cash flow to equity; estimate proceeds of resale after capital gains tax; calculate both internal and financial-management rates of return on investment; prepare an appropriate report of the findings of the investment analysis. **Prerequisite:** RES 3660, or satisfactory completion of a salesman or broker prelicensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of division head. (3-0) 3

**RES 4375 Commercial and Industrial Real Estate:** This course is designed to help students gain knowledge in selling, leasing and managing commercial and industrial real estate. The real estate practitioner should acquire increased professional understanding of commercial and industrial development and marketing, and of brokerage office operations. Upon completion of this course, students should be able to: discuss and explain those unique characteristics of commercial and indus-



trial properties which are of importance from the viewpoints of users, investors, lenders, developers and community planners; demonstrate decision-making ability in situations applicable to selecting, leasing, investing capital, developing, marketing and managing commercial and industrial properties; show an understanding of brokerage office operations. Prerequisite: RES 3660, or satisfactory completion of a salesman or broker pre-licensing course approved by the N.C. Real Estate Commission, or current N.C. real estate license, or consent of Division Head. (3-0) 3

## Respiratory Therapy Technology

**RTH 3304 Pathology and Physical Diagnosis:** Upon completion of this course, students should be able to: recognize abnormalities of the head, neck and thorax gathered from inspection; use a stethoscope; by auscultation, identify normal and abnormal breath sounds and make clinical correlations; explain the pathology of chronic obstructive pulmonary diseases; list the various types of pulmonary carcinomas; discuss the physiologic alterations of the lung caused by extra-pulmonary sources; explain and list conditions of the nervous system which could lead to respiratory failure. (2-2-0) 3

**RTH 3305 Respiratory Pharmacology:** Upon completion of this course, students should be able to: use current reference standards; read and interpret a prescription; compute dosages, determine ratios and percents, and prepare solutions for aerosol administration; describe the pharmacology of airway dilators; describe the pharmacology of mucokinetic substances, their preparation and method of administration; list and describe antibiotics used in the treatment of pulmonary infections; explain the pharmacologic effects of drugs commonly seen in overdose situations; explain the mechanism of action and list commonly used muscle relaxants; explain the mechanism of action and list commonly used drugs affecting central respiratory centers including commonly encountered drugs producing sedation, hypnosis, anesthesia, and stimulants; describe the use of oxygen as a drug, its mechanism of transport, indications, effects on vital functions, cellular and biochemical effects of oxygen toxicity and prevention of oxygen toxicity; diagram or otherwise discuss normal renal function and explain the mechanism of action of commonly used diuretics. (3-0-0) 3

**RTH 3714 Respiratory Therapy Procedures I:** Upon completion of this course, students should be able to: identify clinical situations requiring and properly apply humidity and aerosol devices with associated oxygen delivering capabilities; describe normal mucus clearing mechanisms; discuss normal humidification by airway; assemble and compare nebulizers and humidifiers and discuss their function; describe hazards associated with humidity and aerosol therapy; assemble, disassemble and calibrate selected positive pressure breathing devices; summarize and discuss indications of IPPB; discuss hazards of IPPB; implement and describe methods of monitoring IPPB therapy; discuss types of and correct procedure for administering incentive breathing devices; list indications and contraindications of bronchopulmonary drainage, chest percussion and chest vibration; correctly perform the basic steps of physical examination to include reviewing and gathering data from patient record, inspection and palpation and auscultation. (2-4-9) 7

**RTH 3805 Respiratory Therapy Procedures II:** Upon completion of this course, students should be able to: read and interpret results from arterial blood gas analysis; monitor cor-

rectly parameters of ventilation; recognize and use artificial airways; manage the airways of patients requiring artificial airways; complete a comparative assessment of manual resuscitators; obtain a basic expirogram; become certified by the AHA in basic life support. (3-4-9) 8

**RTH 3807 Introduction to Respiratory Therapy:** Upon completion of this course, students should be able to: recognize the major developments in medicine and science as they relate to the historical aspects of respiratory therapy; list and describe the professional and accrediting organizations; explain the roles and responsibilities of the various respiratory therapy practitioners; use the English and metric systems of measurement interchangeably; define and use medical terms; read a patient chart; correct gases for changes in volume, pressure and temperature; assemble, operate and supply equipment used to administer medical gas therapy; describe the functions and interdependence of the cardiovascular and respiratory systems. Prerequisite: admission to Respiratory Therapy Technology program. (4-4-6) 8

**RTH 4416 Introduction to Pulmonary Functions:** Upon completion of this course, students should be able to: draw and label a normal expirogram; use water and electronic spirometers to obtain expirograms; define the following volumes: tidal, inspiratory reserve, expiratory reserve, and residual; define the following capacities: inspiratory, functional residual, vital and total lung; state the significance of variations from normal of those volumes and capacities; determine the normal values for given patients utilizing nomograms and formulae; explain the usefulness of timed expiratory maneuvers; interpret various expirographic tracings as to restrictive and obstructive lung disease. (2-0-6) 4

**RTH 4504 Pulmonary Function I:** Upon completion of this course, students should be able to: determine functional residual capacity measurements; calculate a cardiac output using the Fick equation and compare with results from other methods; measure the volume of dead space and tidal volume, establish a ratio, and state significance of same; set up and maintain intravascular pressure monitoring systems; calibrate, analyze and change the membranes on selected blood gas analyzers; use a co-oximeter; use a flame photometer; perform and interpret diffusion testing; describe and interpret tests of small airway function. (2-0-9) 5

**RTH 4605 Pulmonary Function II:** Upon completion of this course, students should be able to: determine functional residual capacity measurements; calculate a cardiac output using the Fick equation and compare with results from other methods; measure the volume of dead space and tidal volume, establish a ratio, and state significance of same; set up and maintain intravascular pressure monitoring systems; calibrate, analyze and change the membranes on selected blood gas analyzers; use a co-oximeter; use a flame photometer; perform and interpret diffusion testing; describe and interpret tests of small airway function. (2-2-9) 6

**RTH 4606 Clinical Applications I:** Upon completion of this course, students should be able to: provide respiratory care to patients in an intensive critical care unit; participate in emergency situations while maintaining an airway and breathing for the patient; provide intensive respiratory care to the infant and pediatric patient; discuss the role of supervisory personnel, write procedures for the various applications of respiratory care; organize and provide instruction in respiratory care to medical personnel; participate in a program of cardiorespiratory rehabilitation, become certified by the AHA as an instructor in BLS. (2-0-12) 6

**RTH 4607 Clinical Application II:** Upon completion of this course, students should be able to: provide respiratory care to patients in an intensive critical care unit; participate in emergency situations while maintaining an airway and breathing for the patient; provide intensive respiratory care to the infant and pediatric patient; discuss the role of supervisory personnel; write procedures for the various applications of respiratory care; organize and provide instruction in respiratory care to medical personnel; participate in a program of cardiorespiratory rehabilitation; become certified by the AHA as an instructor in BLS. (2-0-12) 6

**RTH 4415 Equipment for Continuous Ventilation:** Upon completion of this course, students should be able to: classify selected ventilators; discuss compliance and how it relates to ventilator performance; list and describe the cycling mechanism and mode of operation of selected ventilators; trace gas flows from power source to patient in selected ventilators; identify parts of selected ventilators which can be sterilized and list the best method of sterilization for that particular part; list testing procedure for selected ventilators prior to patient use. (3-2-0) 4

**RTH 4724 Continuous Ventilation:** Upon completion of this course, students should be able to: list indications for using mechanical ventilation; given flow and pressure patterns, identify the type ventilator exemplified; list clinical situations requiring the use of volume controlled ventilators; explain the indications and procedures for weaning patients from ventilators; explain the indications and procedures for establishing intermittent mandatory ventilation, positive and expiratory pressure, expiratory resistance and inspiratory plateau; interpret arterial blood gas analysis and make appropriate ventilator changes to correct adverse results. (3-0-12) 7

**RTH 4814 Introduction to Emergency and Intensive Respiratory Care:** Upon completion of this course, students should be able to: modify and use oxygen and aerosol administration devices to deal with specific adverse situations; modify and use selected IPPB devices to deal with specific adverse situations; modify patient positions for bronchopulmonary drainage to accommodate specific patient conditions; perform endotracheal intubation on an adult and infant model; administer oxygen and aerosol therapy to infants; obtain and analyze an arterial blood sample; demonstrate ability to maintain and monitor established airways. (4-2-9) 8

## Secretarial Science

**SEC 3101 Shorthand Review A:** In this course, students will review some principles of Gregg shorthand, some brief forms and phrases. They will also be given some practice in reading, writing and elementary transcription of shorthand. (0-2) 1

**SEC 3104 Shorthand Review B:** This course is a continuation of SEC 3101—Shorthand Review A. Students will complete the review of all principles of Gregg shorthand, brief forms and phrases, with greater emphasis on dictation and transcription. Prerequisite: SEC 3101. (0-2) 1

**SEC 3200 Shorthand Review:** This course is designed to review and reinforce Gregg shorthand theory, including brief forms and phrases. Emphasis will be placed on dictation at varying speeds, as well as review of the fundamentals of English grammar. Prerequisite: successful completion of one year of high school shorthand or two quarters (one semester) of college shorthand. (0-4) 2

**SEC 3201 Typing—Skill Building:** This course is designed to provide an intensive review of the keyboard, typing tech-

niques, posture, simple business letters, manuscripts (reports), and tabulation (columnar) through a series of typing exercises and production applications. Prerequisite: successful completion of one year of secondary level typing or two quarters (one semester) of postsecondary level typing. (1-2) 1

**SEC 3301 Legal Terminology and Vocabulary:** Students will receive an intensive course of study in legal terminology and vocabulary including definitions, usage, derivations and spelling. (3-0) 3

**SEC 3304 Office Machines:** In this course, students will learn techniques, processes and operations of ten keyboard printing and display calculators and applications of the above to business type problems. Prerequisite: FIN 3314. (2-2) 3

**SEC 3310 Introduction to the Electronic Office:** Upon completion of this course, students will have an understanding of: new and expanded roles and responsibilities of the office worker in the electronic office; technological changes in equipment and office systems; selected office layouts; some capabilities of the electronic office. (2-2) 3

**SEC 3311 Receptionist Skills:** Upon completion of this course, students should: be familiar with operation of key telephone devices used by a receptionist; be knowledgeable concerning effective public relations attitudes and skills that project a positive company image; be efficient in such job-related tasks as making appointments, recording messages, receiving and screening calls and callers, processing company mail, controlling petty cash accounts, maintaining bulletin board, and dressing appropriately for the office. (3-0) 3

**SEC 3320 Personal Projection:** In this course, students will learn to recognize the importance of the physical, intellectual, social and emotional dimensions of personality. Emphasis will be placed on grooming and methods of personality improvements. (3-0) 3

**SEC 3326 Insurance Terminology and Vocabulary:** Upon completion of this course, students should be able to: spell and define insurance terms; perform elementary research task in using insurance reference materials; explain the basic purpose and principles involved in insurance on selected categories; discuss current insurance issues and cases. (3-0) 3

**SEC 3404 Typing I:** In this course, students will learn to type by touch, with emphasis on correct technique, mastery of the keyboard, simple business correspondence, and tabulation. Speed requirement: 25 words per minute for 5 minutes. Proficiency test may be taken for this course. (3-2) 4

**SEC 3405 Typing II:** In this course, students will develop further mastery of correct typewriting techniques to be applied in tabulations, manuscripts, correspondence and business forms. Individualized and self-instructional methods are employed. Speed requirement: 35 words per minute for 5 minutes. Prerequisite: SEC 3404 or equivalent. (3-2) 4

**SEC 3406 Typing III:** In this course, students will begin to function as expert typists producing mailable copies. The production units will involve tabulations, manuscripts, correspondence and business forms. Individualized and self-instructional methods are employed. Speed requirement: 45 words per minute for 5 minutes. Prerequisite: SEC 3405 or equivalent. (3-2) 4

**SEC 3414 Shorthand I:** In this course, students will learn Gregg shorthand theory and will practice reading and writing shorthand. The emphasis will be on phonetics, penmanship, word families, brief forms and phrases. Proficiency test may be taken for this course. Corequisites: COM 1304 and SEC 3404 or



equivalent or departmental consent.

(3-2) 4

**SEC 3415 Shorthand II:** In this course, students will continue to study and review Gregg shorthand theory with greater emphasis on dictation and elementary transcription. Upon completion, they should be able to take and transcribe at the typewriter new material at 60 words per minute for 3 minutes. Prerequisites: SEC 3414 and COM 1304 or the equivalent. Proficiency test may be taken for this course. Corequisites: COM 3315 and SEC 3405 or equivalent or departmental consent.

(3-2) 4

**SEC 3416 Shorthand III:** In this course, students will continue to review Gregg shorthand theory and to build speed. Emphasis will be on development of speed in dictation and accuracy in transcription. Upon completion of this course, students should be able to take and transcribe at the typewriter new material at 80 words per minute and mailable items at 70 words per minute. Prerequisites: SEC 3415 or equivalent, and COM 3515. Corequisite: SEC 3406 or departmental consent.

(3-2) 4

**SEC 3424 Medical Transcription I:** In this course, students will complete production units on the typewriter from dictation-transcription machines of medical correspondence and documents such as case histories, articles and hospital reports. Prerequisite: SEC 3406.

(2-4) 4

**SEC 3426 Insurance Office Skills:** Upon completion of this course, students should be able to: set up an efficient records and filing system for personal production; use effective telephone skills; dictate in a correct, organized manner; write a resume; represent themselves to advantage in a job interview.

(2-2) 3

**SEC 3510 Effective Word Techniques:** In this course, students will develop proficiency in spelling, word usage, business terminology, and intelligent use of the dictionary.

(5-0) 5

**SEC 4201 Secretarial Cooperative Experience:** This is a course where students are actually placed in an office environment in the Charlotte business community. They should be able to: demonstrate the ability to communicate effectively with others; accept responsibilities of promptness and personal neatness; learn company and department practices and procedures. In addition, they will be able to integrate their classroom training with on-the-job experience. Students may register for two successive quarters for a total of 4 credit hours. Prerequisite: departmental consent.

(0-20) 2

**SEC 4305 Business Communications:** In this course, students will review grammar and punctuation skills and develop effective techniques for handling the special requirements of business letters and other forms of business communications. Typing skill recommended. Prerequisites: COM 1304 and COM 3515, or departmental consent.

(3-0) 3

**SEC 4326 Insurance Office Problems:** Upon completion of this course, students should have practical skills typing and completing forms and documents used in life, accident and health offices, and fire and casualty offices. Students should also have skill in typing various letters used in those offices. Prerequisite: SEC 3405.

(2-2) 3

**SEC 4370 Records Management:** In this course, students will learn the fundamentals of indexing and filing. Theory and practice will be combined by the use of miniature letters, filing boxes and guides. Topics studied will include alphabetic name, geographic, subject and numerical filing.

(3-0) 3

**SEC 4407 Typing IV:** In this course, students will continue to increase speed and accuracy on straight copy and production typing. The primary purpose of this course will be to review the fundamental principles of typewriting as they apply to produc-

tion work with special emphasis on unarranged and uncorrected material. Speed requirement: 55 words a minute for 5 minutes. Prerequisite: SEC 3406.

(3-2) 4

**SEC 4408 Typing V:** Upon completion of this course, students should be able to: type 60 words per minute for 5 minutes on straight-copy material with no more than five errors; produce problems of a mailable nature typical of those required of office typists. Prerequisite: SEC 4407.

(3-2) 4

**SEC 4409 Legal Typing:** Upon completion of this course, students should be able to: type 60 words per minute for 5 minutes on straight-copy material with no more than 5 errors; produce problems of a mailable nature dealing with litigation, family law, negligence, business organizations, wills and estates, real estate, and bankruptcy; increase their legal vocabulary and knowledge of legal office procedures. Prerequisite: SEC 4407.

(3-2) 4

**SEC 4416 Medical Typing:** Upon completion of this course, students should be able to: type 60 words per minute for 5 minutes on straight-copy material with no more than five errors; produce problems of a mailable nature typical of those required in a medical office; improve their medical vocabulary and knowledge of medical office procedures; complete a variety of medical insurance claims. Prerequisite: SEC 4407.

(3-2) 4

**SEC 4417 Shorthand IV:** In this course, students will develop the skills of taking dictation and transcribing materials appropriate to a business office. Topics will include a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Upon completion of this course, students should be able to take and transcribe at the typewriter dictation at 90 words a minute for 3 minutes on new material, and transcribe at the typewriter. Prerequisite: SEC 3416 or equivalent.

(3-2) 4

**SEC 4418 Shorthand V:** In this course, students will develop the accuracy, speed and vocabulary to meet the stenographic requirements of business offices. Upon completion of this course, students should be able to take and transcribe at the typewriter dictation at 100 words a minute for 3 minutes on new material, and mailable letters at 90 words a minute. Prerequisite: SEC 4417.

(3-2) 4

**SEC 4425 Machine Transcription:** In this course, students will learn to operate a transcribing machine and will transcribe various kinds of communications at the typewriter into mailable form. Emphasis will be placed on grammar and proofreading. Prerequisite: COM 3515. Corequisite: SEC 3406.

(3-2) 4

**SEC 4426 Word Processing I:** In this course, students will understand the concepts of word processing and will be able to operate an editing typewriter. Prerequisite: SEC 3405.

(3-2) 4

**SEC 4427 Word Processing II:** In this course, students will perform advanced applications on an editing typewriter while practicing and testing their language skills in the context of word/information processing problems. Prerequisites: SEC 4426 and SEC 4425.

(3-2) 4

**SEC 4448 Legal Shorthand:** In this course, students will develop the ability to take in shorthand and then transcribe rapidly and accurately legal documents, instruments and correspondence. Shorthand shortcuts for the legal vocabulary will be presented, and law office procedures will be emphasized. Upon completion of this course, students should be able to take and transcribe at the typewriter dictation at a minimum rate of 90 words a minute for 3 minutes and mailable items at a minimum rate of 80 words a minute. Prerequisites: SEC 3416 and SEC 3301.

(3-2) 4

**SEC 4517 General Office Procedures:** In this course, students will learn to handle secretarial responsibilities such as receiving office visitors, handling the mail, telephone, planning travel, preparing financial records, purchasing supplies, organizing the desk and office, using reprographic services. They will also learn to prepare a resume, an application letter, an application form, and a follow-up letter. Prerequisites: SEC 4407, SEC 4370 and SEC 4305. (5-0) 5

## Sociology

**SOC 1301 Group Interaction:** A course designed to enhance students' understanding of group process and dynamics. Upon completion, they should demonstrate a knowledge of the skills essential for analysis of forces at work in groups and for working effectively in a group context. (3-0) 3

**SOC 1500 Sociology of the Family:** A course designed to help students develop an understanding of contemporary American family patterns when examined from a cross-cultural perspective. Upon completion of this course, students should demonstrate a knowledge of the family as a social institution and the social forces which have influenced its development. (5-0) 5

**SOC 2501 People and Their Environments:** An interdisciplinary course designed to promote an understanding of the basic principles governing ecological systems, and the interaction of historical, social, economic, biological and physical forces which sustain the totality of life. Emphasis will be placed on developing an awareness of the place of people within these systems. Examination of environmental concerns, both local and worldwide, will promote an understanding of the environmental impact of individual and group socio-cultural activities and will develop skills in making rational decisions concerning the environment. (5-0) 5

**SOC 2514 Introduction to Sociology:** An introductory course which may be taken in either a self-paced or conventional manner. Upon completion, students should demonstrate a knowledge of the basic concepts of sociology, their application to contemporary group life, and the skills essential for objective analysis of one's social and cultural heritage. (5-0) 5

**SOC 2515 Social Problems:** A course which may be taken in either a self-paced or conventional manner. Upon completion, students should demonstrate an understanding of some of the major social problems confronting contemporary American society, as well as the theories which account for the underlying conditions and human behaviors which result from these conditions. Proposals for reform will be examined. (5-0) 5

**SOC 2524 Special Problems of Sociology:** A course for advanced students who have been approved by the department head. Students will consult with a departmental instructor and select a sociological topic of study. The study may involve library research as well as actual observation and the collection of data. Where several students have selected the same or similar topics concerned with a timely or important sociological subject, a seminar or class may be arranged. By consent of department head and instructor. (5-0) 5

**SOC 4300 Social and Minority Issues:** Students will demonstrate an increased awareness and appreciation of minorities and other intergroup relations, including ethnic and sex-role differences in contemporary American society. Through classroom participation in discussions, role playing, simulation games and testing, they will show evidence of having developed a greater understanding of the basic sociological concepts which

characterize intergroup relations, including a greater appreciation of intergroup differences. (3-0) 3

## Spanish

**SPA 1300 Travel Spanish:** This course provides an oral approach to comprehending and communicating in Spanish. Upon completion of SPA 1300, students should be able to use basic communication in terminals, shops, restaurants, hotels and other places. Tapes, filmstrips, movies and extensive conversation in the classroom reinforce instruction. (Elective credit only. Does not satisfy humanities requirement.) (3-0) 3

**SPA 1600 Elementary Spanish I:** Upon completion of this course, students will have a knowledge of some basic elements of Spanish in conversation, reading and writing. Filmstrips and tapes are used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

**SPA 1601 Elementary Spanish II:** Continuation of SPA 1600 in basic elements of conversation, reading and writing. Tapes, filmstrips, movies and extensive conversation in the classroom. Prerequisite: SPA 1600 or departmental consent. (Does not satisfy humanities requirement.) (5-2) 6

**SPA 2320 Special Topics:** An advanced course in which students and the instructor select topics for independent study. The class meets for oral reports and discussion. Prerequisite: SPA 2600 or consent of department head. (3-0) 3

**SPA 2600 Intermediate Spanish I:** Upon completion of this course, students will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. Prerequisite: SPA 1601 or two high school units or departmental consent. (5-2) 6

**SPA 2601 Intermediate Spanish II:** Upon completion of this course, students will have completed a review of grammar along with readings in Spanish with emphasis on people and events. Prerequisite: SPA 2600 or departmental consent. (SPA 2600 and SPA 2601 combined will satisfy humanities requirement.) (5-2) 6

## Speech

**SPH 1300 Oral Communications:** Upon completion of SPH 1300, students should be able to demonstrate basic communication skills when speaking before an audience, using the fundamental techniques of preparation, organization and delivery. They will also participate in group discussions and demonstrate appropriate listening behavior. (3-0) 3

**SPH 1301 Persuasive Speaking:** Upon completion of SPH 1301, students should be able to show through the use of analysis, evidence and reasoning patterns that attitudes, actions and beliefs may be altered. Persuasive methods of declarative, classificatory, evaluative and actuating claims will be emphasized. (3-0) 3

**SPH 2101 Parliamentary Procedure:** Upon completion of SPH 2101, students should be able to participate in business, professional, labor, service and fraternal organizations that use the rules of parliamentary procedure. (1-0) 1

**SPH 2300 Voice and Diction:** Upon completion of SPH 2300, students should be able to approximate the sounds of standard American English, identify them in simple words and employ the sounds through individual readings. They should be able to demonstrate proper pronunciation, breath control,



phrasing, pitch inflection and vocal variation for effective speech. (3-0) 3

**SPH 2304 Public Speaking:** Upon completion of SPH 2304, students should be able to prepare and deliver the following speeches: informative, entertaining and persuasive. In addition, they should be able to introduce a speaker, present and accept awards and deliver impromptu speeches. (3-0) 3

## Industrial Safety, Health, Security and Investigations

**SSH 3301 Principles of Industrial Management:** Upon completion of this course, students should be able to: identify the line and staff concept and the role each function must play in a successful management team; demonstrate an understanding of the various functions in the managerial process as it relates to decision making and policy formulation, organizing and staffing, planning and controlling, communicating and directing; demonstrate knowledge of group decision-making process specifically relating to the various types of committee organizations and the group and interpersonal dynamics which exist therein; demonstrate knowledge of the development of psychological principles as they have been applied to the industrial setting. (3-0) 3

**SSH 3302 Hotel and Motel Security:** Upon completion of this course, students should be able to: demonstrate an understanding of the hotel/motel security function; have a working knowledge of federal and state laws and local ordinances regarding the operation of hotels/motels; analyze security hazards and outline protective measures such as: security organizations, threat evaluation, access control, protection of cash, emergency planning, fire prevention and safety standards—(OSHA); prepare a working plan for a hotel/motel to include areas indicated above. (3-0) 3

**SSH 3304 Access Control and Loss Prevention:** Upon completion of this course, students should be able to: determine strengths and limitations of security alarm systems; understand the functional operations of common access control systems; understand the fundamental operations of theft and risk control; translate principles of loss prevention management into workable security procedures. (3-0) 3

**SSH 3500 Introduction to Loss Prevention:** Upon completion of this course, students should be able to: understand the historical, philosophical and legal bases of security; understand the fundamental principles of loss prevention and their role in modern society; translate principles of loss prevention management into workable security procedures; conduct a loss prevention survey of a facility incorporating personnel, information and physical security criteria. (5-0) 5

**SSH 3501 Introduction to Principles of Safety:** Upon completion of this course, students should be able to: identify principles of safety regarding equipment and machines; demonstrate skills in placement and use of protection equipment; demonstrate knowledge of safety principles in designing safety controls; demonstrate knowledge of methodology required to design, install and follow up a safety program. (4-2) 5

**SSA 3503 Retail Security:** Upon completion of this course, students should be able to: recognize problems and practices associated with retail security; prepare security proposals associated for a retail facility with regard to security measures; understand the proper utilization of "honesty shoppers," under-

cover detectives and employee morale building programs.

(5-0) 5

**SSH 3504 Occupational Safety and Health I:** Upon completion of this course, students should be able to: be familiar with principles of on-the-job and off-the-job safety programming; be familiar with inter-relationship of safety, security and fire systems, and programs; demonstrate knowledge of use of basic Job Safety and System Safety Analysis techniques; demonstrate knowledge of workplace health hazards and initial symptoms of those hazards; be familiar with engineering controls, their value and limitations. (4-2) 5

**SSH 3305 Occupational Safety and Health II:** Upon completion of this course, students should be able to: review plans and specifications for adequacy of safety, fire and security provisions; design safety systems for the control of explosive atmospheres in vapors, dusts and gases; design safety equipment and guards for semi-complex systems; conduct complex employee health monitoring testing; demonstrate familiarity with approved testing and monitoring equipment, its use and calibration. Prerequisite: SSH 3504. (4-2) 5

**SSH 4290 Cooperative Education I:** This internship is designed for students planning to be licensed as private detectives in the State of North Carolina. It is one quarter in duration and should be completed in the last two years of study. Approval of the program director is required and application must be made to the program director at least three months prior to registration. Prerequisite: 80 hours completed in the CPCC Investigations program. (0-20) 2

**SSH 4291 Cooperative Education II:** This course is a continuation of the intern program and should be completed in the last quarter. Approval of the program director is required. Successful completion of Cooperative Education II will allow students to make application to the Private Protective Services Board of North Carolina for a private detective license. Prerequisite: SSH 4290. (0-20) 2

**SSH 4304 Special Problems in Industrial Safety:** Upon completion of this course, students should be able to: adapt modern methodological research techniques to a current problem in industrial safety through independent study; make clear written presentation in appropriate format; apply appropriate statistical analyses to the problem(s) of interest; develop familiarity with available source data; identify a viable project and carry the assigned task through to a logical conclusion. (2-2) 3

**SSH 4501 Industrial Hygiene and Toxicology:** Upon completion of this course, students should be able to: complete comprehensive reviews and make meaningful recommendations regarding methods of assessment, control or elimination of potential industrial hygiene or toxicology problems; demonstrate familiarity with all carcinogen, mutagen and teratogen forming materials, their threshold limit values (TVL's) and lethal dose 50 (LD-50) values; demonstrate knowledge of principles of ventilation, hazard control and the methods required to cope successfully with known and suspected hazards in the workplace. (4-2) 5

**SSH 4504 Security Problems and Practices I:** Upon completion of this course, students should be able to: analyze and understand special problems and practices of the security profession; prepare and conduct a security survey of an open office, office building, school campus and airport; identify problem areas and recommend procedures for safeguarding computer facilities; prepare and implement procedures for security of transportation and cargo facilities. (4-2) 5

**SSH 4510 Principles of Interviewing and Interrogation:** Upon completion of this course, students should be able to: interview victims, witnesses, informants and complainants as a communicative relationship; use professionally acceptable techniques, question suspects and persons in custody; apply information obtained through the interview process for court testimony when required. (5-0) 5

**SSH 4511 Nuclear Safety:** Upon completion of this course, students should be able to: define the procedures for maintaining radiation safety; understand the effects of radiation exposure on health; define current methods for radiation exposure control; define the methods used to sample radiation in the environment; prepare a nuclear emergency safety plan. (5-0) 5

**SSH 4512 Nuclear Security:** Upon completion of this course, students should be able to: define the special requirement for nuclear security; understand the threat to nuclear facilities; design a method for controlling personnel access to controlled areas; prepare a plan for escorting nuclear materials; understand the planning necessary for possible nuclear disasters; design an evacuation plan for a possible nuclear disaster. (5-0) 5

**SSH 4513 Computer Security:** Upon completion of this course, students should be able to: define the current threat to computer security; define at least 10 methods of maintaining physical security; define procedures for organizing electronic data-processing security; define at least 10 methods of maintaining communications security; define at least 10 systems of personal identification; construct a plan for evaluating a threat as to computation of loss and cost of countermeasures to neutralize the threat. (5-0) 5

**SSH 4514 Electronics for Security:** Upon completion of this course, students should be able to: describe the current state of the art in basic electronic security devices; describe the state of the art in audio intelligence gathering devices used for industrial espionage; describe the most effective countermeasures to protect industrial audio; prepare a plan for installation of electronic security devices; prepare a plan to protect the audio in an industrial setting; know the current state and federal laws governing electronic surveillance and countermeasure devices and procedures. (5-0) 5

**SSH 4515 Executive Protection and Terrorism:** Upon completion of this course, students should be able to: define the history of terrorism; be familiar with the infra-structure of current terrorist organizations, including their objectives, philosophy and techniques; define the current practices of executive protection and, in a given situation, construct a plan for executive protection. (5-0) 5

## Transportation

**TRN 3300 Introduction to Transportation:** An introduction course which surveys the entire field of transportation, transportation management and the career opportunities available in the field. Upon completion of the course, students should be able to: trace the development of the transportation system as it exists in the United States; compare the various modes of transportation; explain the career opportunities in each area of specialization including traffic management, sales and operations; describe briefly how rates are established; explain how highways are financed; describe briefly the regulatory aspects of the industry including recent deregulation; discuss different types of claims, and describe the operational aspects and management of companies involved in transportation. (3-0) 3

**TRN 3303 Economics of Transportation:** Upon completion of this course, students should be able to: trace the development of rail, water, highway, pipeline and air transportation; discuss and understand the economic importance of each carrier type and the part each plays in transporting goods in commerce; relate the development of federal and state regulations; discuss and explain the coordination to meet the needs of an expanding economy. (3-0) 3

**TRN 3320 Motor Fleet Supervision I:** This course is Part I of a two-part series designed for the individual who is responsible for fleet safety and security within the trucking industry. Part I will emphasize hiring, training, supervision and/or evaluating employees in the trucking industry. Upon completion of Part I, students will be able to: identify and describe the essential elements of a fleet safety program as prescribed by the American Trucking Association (ATA); apply DOT requirements in employee selection procedure; apply DOT recommended procedures for training; demonstrate proper techniques in driver supervision as prescribed by the ATA; utilize DOT methods for physical safety and security of cargo. (3-0) 3

**TRN 3321 Motor Fleet Supervision II:** This course is Part II of a two-part series designed for the individual who is responsible for fleet safety and security within the trucking industry. Part II will emphasize accident prevention incentive awards, hours of service, communications and OSHA. Upon completion of this course, students should be able to: identify causes and prevention of accidents; apply proper procedures in the notification, reporting and recording of accidents as required by DOT regulations; establish and conduct incentive award programs; complete and supervise completion of DOT required documents of travel; apply effective communication techniques; interpret and apply applicable OSHA regulations; design (in writing) a fleet safety supervision program including all essential elements as prescribed by the ATA. Prerequisite: TRN 3320. (3-0) 3

**TRN 3351 Traffic Management:** Upon completion of this course, students should be able to: compare for-hire carriers and company-operated transportation as to services and costs; analyze and interpret freight tariff; explain freight classification and rate structure; identify various routing procedures; define in-transit arrangements, reconsignments and diversions; apply procedures to avoid demurrage; describe documentation, and movement of export and import traffic; identify areas of carrier liability and methods of processing freight claims. Prerequisite: None, however TRN 3300 is recommended. (3-0) 3

**TRN 3360 Motor Carrier Rates:** A problems approach to the study of motor carrier rates and charges. Emphasis is placed on tariffs published by the Southern Motor Carrier Rate Conference. Upon completion of this course, students should be able to: discuss the classification, construction and application of rates and charges; compute simple rate problems; apply various Southern Motor Carrier Rate Conference Tariffs to practice problems. Prerequisite: TRN 3300. (2-2) 3

**TRN 3500 Traffic and Transportation Management I:** Upon completion of this course, students should be able to: discuss the history of different modes of transportation and their development; discuss and relate the development of and early regulations of the traffic industry; relate the functions of an industrial traffic manager; explain the requirements of the laws governing the publications and publication agent classification; apply and relate freight rates to various modes and parcel services; explain documents required by the industry. (5-0) 5

**TRN 3501 Traffic and Transportation Management II:**



Upon completion of this course, students should be able to: explain the historical development of different transportation modes; describe the beginnings of transportation regulation; list the functions of a traffic manager; list and explain the publication of carrier classifications, tariffs and freight classifications; describe elements and factors entering in the classification of articles; appraise the effects of freight classification on the various modes and shipping public; apply classification rules; plan routing; complete shipping documents; distinguish between special freight services; discuss filing of claims against the carrier. Prerequisite: TRN 3500. (5-0) 5

**TRN 3502 Traffic and Transportation Management III:** Upon completion of this course, students will be able to apply practical knowledge and affect implementation in the following areas of transportation: tariff circulars, construction and filing, freight rates, terminal facilities and switching, demurrage and detention, reconsignment and diversion, stopping in transit to partially load or unload, weights and weighing, routing, embargoes, terms of sale, materials handling, and packaging. Prerequisites: TRN 3500 and TRN 3501. (5-0) 5

**TRN 3503 Traffic and Transportation Management IV:** Upon completion of this course, students should be able to: trace the evolution of the Interstate Commerce Act; explain the construction of the Act; interpret the Act and its application; describe the application of penalties under the Act; describe the creations and organization of the Act; explain the procedures and practices before the Commission; detail the statutory authority for awarding damages; describe the process of review of the Commission's decisions. (5-0) 5

**TRN 4351 Freight Claims:** Upon completion of this course, students should be able to: investigate damaged shipments; gather and present facts to determine carrier liability; file and process a claim for payment; describe actions shipper and carrier can take to prevent damage from loss, damage or delay. (3-0) 3

**TRN 4354 Transportation Law:** Upon completion of this course, students should be able to: trace the history of the Interstate Commerce Act of 1887 to the present; relate court cases interpreting it and related acts affecting interstate commerce; decide when goods shipped in commerce are subject to federal regulation; relate rights, duties and obligations the act imposes upon shippers and carriers; explain the authority and duties of the Interstate Commerce Commission; recognize violations of the law; gather data in connection with violations; present cases to the commission in the form prescribed; apply procedures necessary to establish data as facts; explain how applications for new authority and proposed rate investigations are made. Students will also be able to explain the implications of the Motor Carrier Act of 1980, the Staggers Rail Act, and the Airline Deregulation Act for shippers and carriers. (3-0) 3

**TRN 4370 Transportation Seminar:** An individualized course designed for the advanced transportation management student to expand knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to practical situations through the techniques of simulations, case studies and specialized industry projects, and tailored to the student's career objective. Upon completion of this course, students should be able to apply the skills and practices necessary for the successful performance in the chosen career area of transportation. Prerequisite: All other transportation courses in area of specialization. (1-4) 3

**TRN 4356 Physical Distribution Management:** Upon completion of this course, students should be able to: describe the

movement and storage of finished goods from the end of the production line to the ultimate consumer; identify the various segments involved in physical distribution; compare the advantages and disadvantages of each segment in order to make more cost-effective decisions. (3-0) 3

**TRN 4358 Warehousing:** A course which examines warehousing from two perspectives—the user of public or private warehousing and the warehouse operator who handles them. Upon completion of this course, students should be able to: describe the types of warehousing, public and private; user considerations; list and explain various management methods and concepts for the operator of a warehouse facility; recognize and describe the different types of equipment used in material handling. (3-0) 3

**TRN 4397 Export/Import Management:** Upon completion of this course, students should be able to: trace the development of the international freight forwarders and explain their primary functions; discuss legal and regulatory controls; describe fundamentals of ocean and air shipping; apply importation and clearance procedures; arrange for domestic shipping and handling of Import/Export traffic; locate sources of information and special services; plan for insurance coverages; describe terms of payment. (3-0) 3

**TRN 4360 Motor Carrier Management:** Upon completion of this course, students should be able to: plan a small trucking fleet to insure proper equipment selection; conduct cost analysis on buying or leasing equipment; select the proper insurance and licenses for operation; apply proper budgeting techniques to develop cost per mile figures to insure a cost-effective operation. (3-0) 3

## Welding

**WLD 5150 Welder's Qualification Test I:** Upon completion of this course, students should be able to: complete a welding test satisfactorily on 1/4" carbon steel using the shielded metal arc process, with 1/8" AWS E6010 electrodes in the flat, vertical upward, horizontal and overhead positions (the test must meet specified CPCC guided bend and tensile test standards); complete a welding test satisfactorily on 1/4" carbon steel using the shielded metal arc process with 1/8" AWS E7018 electrodes in the flat, vertical upward, horizontal and overhead positions (the test must meet specified CPCC guided bend and tensile test standards). Prerequisite: Students must show evidence of adequate training in a community college, technical institute, vocational trade school, or on-the-job training, and obtain Welding program director approval. (0-3) 1

**WLD 5210 Basic Oxyacetylene Welding:** Upon completion of this course, students should be able to: set up, calibrate and operate the oxyacetylene welding equipment; demonstrate surface welding, bronze welding and flame cutting methods applicable to mechanical repair work; practice safety precautions pertaining to oxyacetylene welding and cutting. (1-3) 2

**WLD 5220 Basic Electric Arc Welding:** Upon completion of this course, students should be able to: operate a rectifier type welding machine; weld the more common types of joints in the flat position; practice safety precautions pertaining to electric arc welding. (1-3) 2

**WLD 5240 Introductory Pipe Welding:** Upon completion of this course, students should be able to: weld pipe in the horizontal, vertical and horizontal fixed position using arc welding processes; practice safety precautions pertaining to arc welding. Prerequisite: WLD 5280. (1-3) 2

**WLD 5250 Basic Gas Metal Arc Welding:** Upon completion of this course, students should be able to: assemble and operate the gas-metal arc welding equipment; weld different types of joints in the flat position; select welding heats and shielding gases; practice safety precautions pertaining to gas metal arc welding. (1-3) 2

**WLD 5267 Certification Practice:** Upon completion of this course, students should be able to: weld various metals to meet CPCC certification standards using oxyacetylene, electric arc, gas tungsten arc, and gas metal arc welding processes; practice safety precautions involved in using the welding equipment and other tools. Prerequisites: WLD 5610, WLD 5280 and WLD 5830. Corequisite: WLD 5268. (0-6) 2

**WLD 5268 Certification Testing:** Upon completion of this course, students should be able to: use various tests including guided bend and tensile tests to check the quality of work; demonstrate skill in producing quality welds. Prerequisites: WLD 5610, WLD 5280 and WLD 5830. Corequisite: WLD 5267. (2-0) 2

**WLD 5301 Blueprint Reading for Welders I:** Upon completion of this course, students should be able to: sketch multi-view drawings; interpret conventional lines, dimensions, notes and welding symbols; make pictorial sketches; interpret industrial drawings used in welding shops. (3-0) 3

**WLD 5302 Blueprint Reading for Welders II:** Upon completion of this course, students should be able to: read and interpret industrial welding prints of a more complex nature; make sketches of welding assemblies. Prerequisite: WLD 5301. (3-0) 3

**WLD 5311 Oxyacetylene Welding and Cutting I:** Upon completion of this course, students should be able to: demonstrate knowledge of the principles of oxyacetylene welding and cutting; describe the nomenclature of the equipment; assemble all components properly; form a puddle and carry the puddle forming weld beads in the flat position on different types of joints; practice all safety precautions involved in oxyacetylene welding. (2-3) 3

**WLD 5312 Oxyacetylene Welding and Cutting II:** A continuation of WLD 5311. Upon completion of this course, students should be able to: weld in all positions on different types of joints; cut ferrous metals; perform brazing operations; visually inspect all welds to determine quality; practice all safety precautions involved in oxyacetylene welding and cutting. Prerequisite: WLD 5311. (1-6) 3

**WLD 5355 Commercial and Industrial Practices I:** Upon completion of this course, students should be able to: demonstrate skill developed through practice in simulated industrial processes and techniques; sketch, lay out, list procedures and construct a project following these procedures; repair worn or broken parts by special welding application; perform non-destructive tests and inspection; practice safety precautions involved in the welding industry. Prerequisites: WLD 5610, WLD 5820 and WLD 5830. (1-6) 3

**WLD 5356 Commercial and Industrial Practices II:** A continuation of WLD 5355. Upon completion of this course, students should be able to demonstrate additional skill in those areas outlined in WLD 5355. Prerequisite: WLD 5355. (1-6) 3

**WLD 5401 Basic Calculations for Welders:** Upon completion of this course, students should be able to: apply the principles of addition, subtraction, multiplication and division to problems related to the welding field; apply the functions of ratio and proportion to length and height of dimensions; read a

ruler satisfactorily; calculate the percentage of error involved in a given measurement; manipulate fractional and decimal numbers; find weights and capacities of stock using area and volume formulas; understand angular measurement. (4-0) 4

**WLD 5404 Pipe Welding:** Upon completion of this course, students should be able to: weld pipe in the horizontal, vertical, horizontal fixed, and in the 6G position using 6010 and 7018 rods; complete test specimens to specifications indicated; and practice safety precautions appropriate for the above activity. Prerequisite: Welding program director's approval. (2-6) 4

**WLD 5421 Arc Welding I:** Upon completion of this course, students should be able to: operate an AC transformer, rectifier and DC motor generator arc welding machine; select welding heats, polarities and electrodes used in joining various metal alloys; weld different types of joints in the flat position; practice safety precautions pertaining to electric arc welding. (2-6) 4

**WLD 5422 Arc Welding II:** A continuation of WLD 5421. Upon completion of this course, students should be able to: weld different types of joints in all positions; make intermittent welds and multiple passes; test welds to detect weaknesses and imperfections; practice safety precautions pertaining to electric arc welding. Prerequisite: WLD 5421. (2-6) 4

**WLD 5431 Gas Tungsten Arc Welding I:** Upon completion of this course, students should be able to: operate an inert-gas-shielded arc welding machine; understand equipment operation and safety procedures; weld different types of joints in the flat position; practice safety precautions pertaining to inert-gas-shielded arc welding. (2-6) 4

**WLD 5432 Gas Tungsten Arc Welding II:** A continuation of WLD 5431. Upon completion of this course, students should be able to: weld different types of joints in all positions; select welding heats, shielding gases and filler rods; practice safety precautions pertaining to inert-gas-welding. Prerequisite: WLD 5431. (2-6) 4

**WLD 5450 Gas Metal Arc Welding:** Upon completion of this course, students should be able to: set up, calibrate and operate the gas metal arc welding equipment; weld different types of joints in the flat, vertical and horizontal positions on steel sheet metal, plate and aluminum plate; select welding current and shielding gases; practice safety precautions pertaining to gas metal arc welding. (2-6) 4

**WLD 5610 Oxyacetylene Welding and Cutting:** Upon completion of this course, students should be able to: demonstrate a knowledge of the principles of oxyacetylene welding and cutting; describe the operation and set-up of the equipment; assemble all components properly; form a puddle and carry the puddle forming weld beads in recommended positions on different types of joints; cut ferrous metals; perform brazing operations; visually inspect all welds to determine quality; practice all safety precautions involved in oxyacetylene welding and cutting. (3-9) 6

**WLD 5654 Commercial and Industrial Practices:** Upon completion of this course, students should be able to: demonstrate skills developed through practice in simulated industrial processes and techniques; sketch, lay out, list procedures and construct a product following these procedures; repair worn or broken parts by special welding applications; perform non-destructive tests and inspections; prepare bill of materials necessary to fabricate projects; practice safety precautions involved in the welding industry. Prerequisite: WLD 5610, WLD 5820 and WLD 5830. (2-12) 6

**WLD 5820 Arc Welding:** Upon completion of this course,



students should be able to: operate an AC transformer, rectifier, and DC motor generator arc welding machine; select welding heats, polarities and electrodes used in joining various metal alloys; weld different types of joints in all positions; practice safety precautions pertaining to electric arc welding. (4-12) 8

**WLD 5830 Gas Tungsten Arc Welding:** Upon completion of this course, students should be able to: operate gas tungsten welding equipment; select welding heats, shielding gases and filler rods; understand equipment operation and safety procedures; weld different types of joints in all positions; practice safety precautions pertaining to gas tungsten arc welding.

(4-12) 8



# Faculty and Professional Staff

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North Carolina State University.
- CUDD, DENNIS, Media Production  
A.A., 1967 (Central Piedmont Community College); B.A., 1972  
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Graduate of Chrysler Trade School; A.A., 1974 (Central  
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Institute of Technology.
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B.A., 1975 (East Carolina University); A.A., 1979 (Randolph  
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B.A., 1963; M.A., 1969 (University of Florida).
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Undergraduate work at Central Piedmont Community College.
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B.S., 1952 (Purdue University); M.Ed., 1976 (Clemson University). Additional graduate work at Florida State University.
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B.S., 1939 (Bowling Green University); M.A., 1951 (University of Michigan); Ed.D., 1961 (Wayne State University).
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A.S., 1969 (Bernard Baruch School of Business Administration); B.S., 1970; M.A., 1974 (John Jay College of Criminal Justice, New York).
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B.S., 1966; M.A., 1968 (Appalachian State University); Ed.D., 1979 (Nova University).
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- HARRISON, PHILLIP S., Electrical Installation & Maintenance  
B.S., 1969 (Atlantic Christian College). N.C. Electrical Contractor's License, 1976.
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A.A., 1958 (Wingate Junior College); A.B., 1960; M.Ed., 1962 (University of North Carolina at Chapel Hill); Ph.D., 1971 (University of South Carolina). Additional work at New York State University.
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- HOBBS, MARGARET WAGONER, Secretarial Science  
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- HORTON, MURIEL G., Associate Degree Nursing  
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B.S., 1957 (Johnson C. Smith University). Additional studies at University of North Carolina at Charlotte, and Springfield College.
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B.S., 1976 (North Carolina State University). Additional study at Appalachian State University.
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N.C. State Level III (Morganton, N.C.)
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- IBANEZ, HUGO J., Writing and Humanities  
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- JACKSON, WILLIAM L., Behavioral and Social Science  
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B.S., 1964 (University of Tampa); M.A., 1968 (Appalachian State University).

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B.S., 1960; M.A., 1961 (East Carolina University).
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B.S., 1957 (Agricultural and Technical State University); M.A., 1960 (Columbia University). Additional graduate work at University of North Carolina at Greensboro.
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B.S., 1979, Teaching (Appalachian State University); N.C. State Level II, 1983 (Morganton N.C.).
- JOHNSON, WILLIAM M., Air Conditioning, Heating and Refrigeration Technology  
A.S., 1959 (Southern Technical Institute). Additional undergraduate work at University of Georgia, Auburn University, and Sneade Junior College.
- JOHNSTON, CAMILLE N., Placement Officer  
A.B., 1946 (Duke University).
- JONES, CATHY, Counseling Services  
B.A. (Barber-Scotia College); M.Ed., (University of North Carolina at Charlotte).
- JONES, DEBRA W., Computer Center  
B.S., 1977 (North Carolina Central University).
- JONES, JAMES B., JR., Mathematics  
B.A., 1963 (Lenoir-Rhyne College); M.A., 1965 (University of South Carolina). Additional graduate work at Florida State University.
- JONES, JUDITH SHELTON, Data Entry Instructor  
Diploma, 1969 (Bessemer State Technical College, Bessemer, Alabama). Additional undergraduate work at University of Alabama, Birmingham.
- JONES, LONELL, Division Head, Nursing Programs  
Diploma, 1957 (Hendrick Memorial Hospital School of Nursing); B.S.N., 1962 (Texas Christian University); M.S.N., 1966 (Washington University).
- JORDAN, CAROL W., Program Director, Women's Career Center  
B.A., 1976 (Shaw University); M.Ed., 1978; B.A., 1980 (University of North Carolina at Charlotte).
- JOYNER, NORMAN, Electrical and Electronics Engineering Technology  
Specialty Schools, U.S. Army Electronics School, RCA and Westinghouse. Fifteen years electrical work experience.
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A.B., 1965 (Boston University); M.B.A., 1971 (University of Massachusetts at Amherst); A.A.S., 1978; A.A.S., 1979 (Central Piedmont Community College). Additional work at Naval War College, Newport, R.I.
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B.S., 1960 (North Carolina Agricultural and Technical State University). Additional study at Johnson C. Smith University.
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A.B., 1967 (Salem College)
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A.B., 1968 (Pfeiffer College); J.D., 1972 (Stetson University).
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B.A., 1955 (Wake Forest University); M.A., 1964 (Appalachian State University); Ed.D., 1976 (Nova University).
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Diploma, 1953 (Mercy School of Nursing); B.A., 1973 (Limestone College). M.Ed., 1982 (University of North Carolina at Charlotte). Registered Nurse.
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Undergraduate work at Western Carolina University.
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Undergraduate studies at Central Piedmont Community College.
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- MUMFORD, GLORIA M., Physical Science  
B.S., 1953 (Bennett College); M.S., 1964 (North Carolina Central University). Additional graduate work at Michigan State University.
- MYERS, MICHAEL G., Director, Public Information and Special Projects  
B.S., 1953 (Davidson College). Additional study at Harvard University Institute for the Management of Lifelong Education.

- NELSON, CLARA E., Accounting  
B.S., 1962; M.A., 1965 (Appalachian State University).
- NELSON, JOHN A., Program Director, Automotive Mechanics  
B.S., 1964 (Stout State College).
- NELSON, MARGARET R., Nursing  
B.S.N., 1973 (East Carolina University); M.S.N., 1979 (Emory University).
- NEVILLE, SUSAN M., North Area Learning Center  
B.S., 1970 (State University of New York at Oneonta).  
Graduate work at S.U.N.Y. at Binghamton and Cortland.
- NEWLANDER, CHANDLER, Civil Engineering  
B.S., 1967 (Winthrop College); A.A.S., (Central Piedmont Community College); B.E.T., 1983 (University of North Carolina at Charlotte).
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B.A., 1974 (Winthrop College). Licensed Audio Stress Examiner; Licensed Private Detective; N.C. Certified Criminal Justice Instructor.
- NIELSEN, BJARNE T., International Culture  
B.S., 1970 (Aalborg Seminarium, Denmark); B.A., 1974 (Ambassador College, England).
- ODELL, BETTY P., Associate Degree Nursing  
B.S.N., 1979 (Lenoir-Rhyne College); M.S.N., 1982 (University of North Carolina at Charlotte).
- ODELL, ROBERT STANLEY, Mechanical Engineering Technology  
B.S., 1951; M.A., 1959 (East Tennessee State University).  
Additional work at University of North Carolina at Chapel Hill and North Carolina State University.
- ODER, HENRY ALLEN, Program Director, Paralegal  
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- O'NEILL, WALTER C., Program Director, Food Preparation Diploma, 1941 (Cooks and Bakers School). Additional work at Florida International University and Miami Dade Community College. Certified Executive Chef.
- OPLINGER, M. PHOEBE, Director, Library Services  
A.B., 1946 (Maryville College); M.S.L.S., 1959 (Drexel University).
- OSBORNE, HUGH M., Director of College Electrical and Mechanical Systems  
Undergraduate studies at Central Piedmont Community College. Electrical Apprenticeship Training, 1970; Journeyman's Certificate, Mecklenburg County, 1970; Journeyman's Certificate, Charlotte, 1977. N.C. State Electrical Contractor's License.
- OTTERBOURG, EDNA M., Biology  
B.S., 1953 (University of North Carolina at Greensboro); M.A.T., 1968 (University of North Carolina at Chapel Hill).
- PASCHAL, MARY LOU, Performing Arts, Music  
B.M., 1957 (Oberlin Conservatory of Music); M.M., 1959 (University of Mississippi). Additional study at Harvard University.
- PAYNE, JAMES W., Welding  
Attended West Virginia State, Morris Harvey College, Central Piedmont Community College; F.M.C Ordinance Division Welding School; A.W.S., A.S.M.E., A.B.S. and Military Welding codes qualifications steel and aluminum.
- PENNINGTON, ARIS T., Director, Older Adult Program  
B.S., 1972 (Tuskegee Institute).
- PERKINS, WILLIAM S., Media Production  
B.A., 1972; M.Ed., 1974 (University of Houston).
- PERRY, TANGEE G., Assistant Director, Off-Campus Registration
- PERSON, LELAND, Telecourse Center  
B.A., 1977; M.Ed., 1981 (North Carolina Central University).
- PETTY, NORMAN HOLMES, Director, N.C. Rural Renaissance Consortium  
B.A., 1962 (Wheaton College); M.B.A., 1970 (Georgia State University); Ph.D., 1981 (University of North Carolina at Chapel Hill).
- PITTS, CAROLYN, Associate Director, Student Financial Aid  
B.S., 1966 (Livingstone College); M.Ed., 1976 (University of North Carolina at Charlotte).
- POOLE, KAREN, Special Services  
Comprehensive Skills Certificate, 1981 (Charlotte, North Carolina).
- PORTER, LINDA K., Program Director, Medical Record Technology  
A.S., 1970 (Lees-McRae College); B.S., 1972 (Bowman Gray College). Registered Records Administrator, 1972.
- PRIVETTE, ERNEST DeREECE, Secretarial Science  
B.S., 1949 (East Tennessee State University); M.A., 1952 (Columbia University). Additional work at Appalachian State University, North Carolina State University, and the University of North Carolina at Chapel Hill.
- RANDALL, ANNETTE M., Writing and Humanities  
A.B., 1967 (University of North Carolina at Chapel Hill); M.A., 1968; Ed.S., 1977 (Appalachian State University); Ph.D., 1982 (University of Texas at Austin).
- RANDALL, DAVID M., Mechanical Engineering Technology  
A.A.S., 1981 (Central Piedmont Community College).
- READ, DANIEL EDWIN, JR., Biology  
B.S., 1961 (University of Florida); M.A., 1964 (Duke University). Additional study at University of North Carolina at Greensboro, and University of North Carolina at Charlotte.
- REID, ANN C., Secretarial Science  
B.S., 1959 (Appalachian State University); M.A.T., 1974 (Winthrop College).
- REID, RUFUS EUGENE, JR., Advancement Studies  
B.S., 1958; M.Ed., 1965 (Appalachian State University).
- REYNOLDS, BRADFORD J., Division Head, Human Services  
A.B., 1962 (Elon College); M.Ed., 1967 (University of North Carolina at Greensboro); Ed.D., 1977 (Nova University).
- RHODEN, DAVID A., Operations Coordinator, Testing Center  
A.A., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte).
- RICHARD, RAYMOND G., Writing and Humanities  
B.A., 1953 (University Saint-Louis, Edmunston, NB, Canada); M.A., 1963 (Université Laval, Quebec, PC, Canada). Additional work at University of London, and the University of South Carolina.
- RICKETSON, CYNTHIA L., Writing and Humanities  
B.S., 1964; M.A., 1966 (University of Tennessee).
- ROBERTS, FLORA EMILY, Accounting  
A.A.S., 1975 (Central Piedmont Community College).
- ROBINSON, LOUISE PARSON, Counseling Services  
B.S., 1956; M.S., 1963 (Oklahoma State University).
- ROGERS, JAMES COOK, Behavioral and Social Science  
B.A., 1966; M.A., 1968 (Wake Forest University). Additional graduate work at University of California at Berkeley, and the University of Kentucky.
- ROJO, LORETTA BURCH, Accounting  
B.S., 1965 (Winthrop College); M.Ed., 1969 (University of North Carolina at Greensboro).
- ROMINGER, MIKE, Media Production  
B.A., 1976 (Appalachian State University).
- ROSS, BOBBIE G., Coordinator, North Area Learning Center  
B.S., 1958 (Appalachian State University); M.S., 1978 (Winthrop College). Additional graduate work at University of North Carolina at Greensboro and Charlotte.
- ROSS, ELIZABETH SPROUL, Arts, Fine Arts  
B.A., 1959 (Queens College); M.F.A., 1965 (University of North Carolina at Greensboro).
- ROUZER, NANCY C., Behavioral and Social Science  
B.A., 1942 (Duke University); M.A.T., 1964 (Winthrop College). Additional work at Winthrop College.
- ROWELL, ANN PARKIN, Accounting  
B.S., 1973 (University of North Carolina at Greensboro). Additional graduate studies at Winthrop College. Certified Public Accountant.
- RYAN, VIRGINIA, Counseling Services  
B.S., 1958; M.S., 1964 (University of Southern Mississippi). Additional work at University of Southern Mississippi.



- ST. CLAIR, DONNA, Special Services  
A.A., 1961 (George Washington University); B.A., 1975 (University of North Carolina at Charlotte). North Carolina State Level II, 1982 (Charlotte, North Carolina).
- SAMPSON, BOB G., Speech  
B.A., 1965 (Western Kentucky University); M.A., 1968 (Ball State University); Ed.S., 1973 (Appalachian State University).
- SASSER, JAMES HOWARD, Behavioral and Social Sciences  
A.B., 1959 (High Point College); M.A., 1960; Ed.S., 1968 (George Peabody College for Teachers); Ed.D., 1976 (Nova University).
- SCHOETTLER, SUSAN B., Business Administration  
B.A., 1970 (Eastern Michigan University); J.D., 1973 (Detroit College of Law).
- SHAFFER, JUDITH U., Library Services  
B.A., 1968 (University of Delaware).
- SHAMSID-DEEN, DEVENURE NIVENS, Writing and Humanities  
A.B., 1968 (Johnson C. Smith University). Additional work at University of North Carolina at Charlotte.
- SHAPIRO, ADELE, Mathematics  
A.B., 1956 (Brooklyn College); M.S., 1958 (Yeshiva University Graduate School of Education). Additional graduate work at Hofstra University.
- SHAW, EDWARD H., Program Director, Real Estate  
B.S., 1943; M.S., 1948 (Georgia Institute of Technology).
- SHEPHERD, R. DONALD, Counseling Services  
B.S., 1964 (University of Tennessee); M.S., 1970 (Florida State University); Ed.D., 1976 (Nova University).
- SHIRKEY, KATHRYN T., Program Director, Child Care Training Center  
B.A., 1952 (Albion College).
- SIMMONS, NOAH GAYLE, Executive Vice President  
B.S., 1948 (Southeast Missouri State College); M.A., 1951; Ed.D., 1960 (Washington University). Post-doctoral study at Michigan State University.
- SMALL, BEN F., Director, College Inventory Control
- SMITH, BRUCE HENRY, Vice President, Administrative Services  
B.A., 1957 (Lenoir-Rhyne College); M.B.A., 1964 (Auburn University); Ed.D., 1980 (Nova University). Additional work at University of North Carolina at Chapel Hill. Certificate in Municipal Administration.
- SOOS, GEORGE, Program Director, Mechanical Engineering Technology  
B.S.E., 1944 (Hungarian Royal Technical Military Academy). Additional work at North Carolina State University. Registered professional engineer.
- SPEAS, CURTIS P., Media Services  
A.A., 1979 (Valencia Community College).
- SQUIRES, CARL EDWIN, Vice President, Careers Group  
B.A., 1959; M.A., 1962 (Arizona State University); Ed.D., 1976 (University of Missouri).
- STANBACK, ERNEST H., Director, Adult Education and Contractual Programs  
B.S., 1945 (Agricultural and Technical State University); M.Ed., 1956 (Cornell University). Additional work at University of North Carolina at Chapel Hill, Duke University, Morgan College and Hampton Institute.
- STARNES, CHARLES C., Performing Arts, Music  
B.S., 1956 (East Carolina University); M.Ed., 1967 (University of North Carolina at Chapel Hill). Additional work at Florida State University, and Oberlin College Conservatory.
- STEARNS, LARRY M., Biology  
B.S., 1962 (Maryville College); M.S., 1965 (University of Tennessee); Ph.D., 1970 (Clemson University).
- STEARNS, MARTHA, Reading  
B.S.E., 1961 (Maryville College); M.E.D., 1969 (Clemson University).
- STILWELL, GORDON STEVE, Automotive Mechanics  
Diploma, 1968 (Central Piedmont Community College); A.G.E., 1971; Diploma, 1979 (Central Piedmont Community College).
- STINSON, ANNETTE, Administrative Services
- STRICKLAND, SAM J., Director, Maintenance  
A.A., 1972 (Central Piedmont Community College). B.T., 1977 (Appalachian State University).
- SUGGS, BEVERLY S., Writing and Humanities  
B.A., 1970; M.A., 1975 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Chapel Hill. Certified for secondary teaching.
- SULLIVAN, JOANNE, Library Services  
B.S., 1950 (East Tennessee State University); M.A.L.S., 1952 (George Peabody College, Vanderbilt University). Additional work at University of Tennessee, and Memphis Academy of Arts.
- SUMEREL, JERRY J., Special Services  
Comprehensive Skills Certificate, 1977 (Columbia, South Carolina).
- SUMMER, JOSEPH T., Program Director, Horticulture  
B.S., 1969 (Clemson University).
- SUMMERS, JACK H., Assistant Director, Resource Development  
B.A., 1976; M.A., 1979 (Western Carolina University).
- SURPHILIS, ROSS C., Director, Student Activities  
B.S., 1969 (St. Louis University); A.M., 1962 (University of Missouri). Additional work at University of Illinois.
- SUTCLIFFE, GEORGE H., Business Administration  
B.S., 1960 (Davidson College); M.A., 1961 (East Carolina University); Ed.D., 1980 (Nova University). Additional work at North Carolina State University.
- SUTTON, ROBERT T., Media Production  
B.A., 1977 (University of North Carolina at Chapel Hill).
- SWANDER, MARTHA JO, Computer Science  
B.S., 1971; M.S., 1976 (Radford University).
- SYFERT, DAVID VERNON, Behavioral and Social Science  
B.A., 1964 (Cornell College); M.A., 1966 (Michigan State University). Additional work at Michigan State University.
- TALBERT, EARL DONALD, Computer Science  
A.B., 1951 (Catawba College). Graduate work at North Carolina State University, and Appalachian State University. Professional Certificate in Data Processing.
- TATE, DONALD K., Air Conditioning, Heating and Refrigeration Technology  
B.A., 1969 (Wake Forest); Master Industrial Arts, 1980 (Clemson University). Additional graduate work at University of North Carolina at Charlotte.
- TAYLOR, H. LEWIS, Physics  
Undergraduate studies at University of North Carolina at Charlotte.
- TEMPLE, WILLIAM S., Advancement Studies  
A.B., 1956 (Lenoir-Rhyne College); M.Ed., 1962 (University of North Carolina at Chapel Hill). Additional graduate work at Duke University.
- TERRY, BEVERLY E., Accounting  
B.A., 1969; M.A., 1971 (University of Missouri at St. Louis). Additional graduate work at Southern Illinois University. Certified public accountant.
- THARPE, LA VERYL N., Matthews Area Learning Center  
B.A., 1963 (Wayne State College).
- TIMBLIN, GEORGE A., Division Head, Technology  
B.S.E.E., 1962 (Duke University); M.Ed., 1975 (University of North Carolina at Charlotte).
- TODD, CARL A., JR., Diesel Mechanics  
Diploma, 1981, Automotive Mechanics; Diploma, 1981, Diesel Vehicle Mechanics (Central Piedmont Community College).
- TONG, DIEP N., Junior Accountant, Business Office  
A.A., 1976 (Rochester Community College); B.S., 1978 (Winona State University).
- TREVOR, FLORENCE G., Reading  
B.A., 1947 (Barnard College, Columbia University); M.A., 1963 (University of Tennessee). Additional graduate work at University of South Carolina, University of Indiana, and Taylor University.

- TRIPP, JOHN DOUGLAS, SR., Director, Veterans Affairs and Testing Center Services  
B.S., 1947 (North Carolina State University); M.R.E., 1951 (Southwestern Baptist Theological Seminary). Additional graduate work at Appalachian State University, North Carolina State University, University of Virginia, and Auburn University.
- VANCE, THOMAS M., Performing Arts, Drama  
B.S., 1960; M.A., 1962 (Appalachian State University). Additional graduate work at University of North Carolina at Chapel Hill and the University of Georgia.
- VARNELL, HILDA, Advancement Studies  
A.B., 1963 (Atlantic Christian College); M.Ed., 1976 (University of North Carolina at Charlotte).
- VULGAN, AMBROSE R., Mathematics  
B.S., 1949 (Hampden-Sydney College); M.A., 1960 (Louisiana State University). Additional work at University of Richmond.
- WADE, JOELLEN, Media Production  
Diploma, 1953 (Bradford Junior College); B.A., 1955 (University of North Carolina at Chapel Hill).
- WAGNER, CARL C., Architectural and Civil Engineering Technology  
A.A.S., 1976 (Central Piedmont Community College); B.E.T., 1979 (University of North Carolina at Charlotte).
- WALKER, HAROLD DEAN, Director, College Data Processing  
A.A.S., 1967 (Central Piedmont Community College).
- WALLACE, ROBERT G., Welding  
Diploma, 1963 (Central Piedmont Community College). Additional undergraduate work at North Carolina State University).
- WALTERS, RONALD KEITH, Art, Commercial Art  
B.F.A., 1956 (Maryland Institute of Art); M.Ed., 1973 (University of North Carolina at Charlotte).
- WARD, RICHARD C., Economics  
B.S., 1939 (Ohio University); M.A., 1966 (St. Mary's University, Texas).
- WARREN, GEORGE C. III, Behavioral and Social Science  
A.B., 1965 (Birmingham Southern College); M.A., 1970 (University of Alabama).
- WATSON, BETTY L., Director, Counseling Services  
B.A., 1952 (University of Denver); M.A., 1956 (Columbia University, New York). Additional work at University of South Carolina, University of LaVerne, University of North Carolina at Charlotte, and Central Piedmont Community College.
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Undergraduate study at Winthrop College.
- WAY, MARY A., Writing and Humanities  
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- WEBB, B. G., Director, Purchasing  
Kings Business College
- WESCOTT, RENEE, Vice President, Learning Resources  
B.S., 1952 (Fayetteville State University); M.A., 1968 (North Carolina Central University); Ed.D., 1972 (Duke University).
- WEST, CHARLOTTE HAMOR, Secretarial Science  
B.A., 1946 (University of North Carolina at Chapel Hill). Additional study at Carolina Business College, Central Piedmont Community College, and Appalachian State University.
- WHITLEY, JAMES A., Respiratory Therapy  
A.A.S., 1975 (Central Piedmont Community College). Certified Respiratory Therapy Technician. Registered Respiratory Therapist.
- WHITLEY, RALPH W., Behavioral and Social Science  
A.B., 1965 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University).
- WHITMAN, WILLIAM CHARLES, Division Head, Industry  
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- WHITTEN, SALLY TERESA, Physical Therapist Assistant  
B.S., 1975 (Medical University of South Carolina). Licensed physical therapist.
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Diploma, 1972 (Central Piedmont Community College)
- WIGGINS, W. WEBB, Performing Arts, Music  
B.Mus., 1967 (Stetson University); M.Mus., 1968 (Eastman School of Music). Additional study at Oberlin College and Sweelinck Conservatorium, Amsterdam.
- WILLIAMS, ARTHUR LEE, Auto Body Repair  
Diploma, 1972 (Central Piedmont Community College). Additional studies at Central Piedmont Community College.
- WILLIAMS, BETTY GAILE, Career Planning Center  
B.A., 1969 (University of North Carolina at Chapel Hill); M.Ed., 1977 (University of North Carolina at Charlotte).
- WILLIAMS, DORIS A., Mechanical Drafting  
A.A.S., Mech. Eng. Tech., 1979 (Central Piedmont Community College). Additional study at Winthrop College.
- WILLIAMS, RONALD D., Computer Science  
B.A., 1971 (University of North Carolina at Chapel Hill); M.A., 1977 (University of Northern Colorado).
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- WILSON, MARJORIE, Reading  
A.B., 1972; M.S., 1973 (State University College, Fredonia, New York).
- WILSON, WILLIAM RAY, Mathematics  
B.S., 1959; M.Ed., 1965 (Georgia Southern College). Additional graduate work at Auburn University, and North Carolina State University.
- WISDOM, STAN L., Behavioral and Social Science  
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- WYKLE, BILLIE DALE, Automotive Mechanics  
Diploma, 1972 (Central Piedmont Community College).
- WYLIE, ALEX, Director, College Payroll, Retirement and Insurance  
B.S., 1960 (The Citadel).
- ZELLER, JAMES DOUGLAS, Performing Arts, Music  
B.A., 1969 (Furman University); M.S.M., 1971 (Union Theological Seminary School of Sacred Music, New York).





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**FRONT COVER:**

CPCC, beginning its third decade, serves the needs of a diverse student body community.

**BACK COVER:**

With Charlotte's burgeoning skyline as a backdrop, the CPCC campus is a short distance from uptown Charlotte.

Catalog coordinator, Carol Lincoln

Catalog quality control, Betty Watson

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